

GEORGIA STATE RAIL PLAN



APPENDICIES
2021



APPENDIX A: Georgia's Existing Railway System Technical Memorandum

**GEORGIA
STATE RAIL
PLAN - 2021**





Georgia State Rail Plan

Appendix A

State's Existing Rail System



Contents

1. Introduction	1
1.1. Description and Inventory of Georgia's Rail System	1
1.1.1. Freight Railroad Companies in Georgia	1
1.1.1. Short Line Holding Companies.....	12
1.1.2. Passenger Rail in Georgia	21
1.1.3. Major Freight Terminals	28
1.1.4. Passenger Rail Stations in Georgia	38
1.1.5. Objectives for Passenger Rail Service	43
1.1.6. Performance Evaluation of Intercity Passenger Services	44
1.1.7. Funding Sources and Financing Mechanisms	54
1.1.8. Railroad Safety and Security: Trends and Initiatives	61
1.1.9. Economic and Environmental Impacts	76
1.2. Trends and Forecasts	83
1.2.1. Demographic and Economic Growth Factors	83
1.2.2. Freight Demand and Growth	94
1.2.3. Passenger Travel Demand and Growth	120
1.2.4. Fuel Cost Trends	121
1.2.5. Rail Congestion Trends	123
1.2.6. Highway and Airport Congestion Trends.....	125
1.2.7. Land Use Trends	131

Tables

Table 1-1: Railroad Classification Thresholds	1
Table 1-2: Operating Route Mileage in Georgia	2
Table 1-3: Total Class I Railroad Mileage Operated in Georgia (2019).....	4
Table 1-4: Commodities Transported by CSX	4
Table 1-5: Interchanges with Western Railroads	4
Table 1-6: East Coast Ports Served by CSX	5
Table 1-7: NS Connections to Western Carriers	8
Table 1-8: NS Service to Major East Coast Ports	8
Table 1-9: NS Outbound Georgia Carloads by Commodity Type (2017)	8
Table 1-10: NS Inbound Georgia Carloads by Commodity Type (2017)	9



Table 1-11: Short Line Railroads in Georgia	12
Table 1-12: Daily Schedule for the <i>Palmetto</i> , showing Termini and Stops in Georgia	23
Table 1-13: Daily Schedule for the <i>Silver Meteor</i> , showing Termini and Stops in Georgia	23
Table 1-14: Daily Schedule for the <i>Silver Star</i> , showing Termini and Stops in Georgia.....	24
Table 1-15: Daily Schedule for the <i>Crescent</i> , showing Termini and Stops in Georgia	24
Table 1-16: Automotive Rail Facilities	36
Table 1-17: Georgia Amtrak Station Amenities	42
Table 1-18: ADA Accessibility of Station Features	43
Table 1-19: Route Ridership FY2014 - FY2018.....	45
Table 1-20: 2018 Top Georgia Origin-Destination Station Pairs.....	48
Table 1-21: 2018 Top Origin-Destination Station Pairs by Route.....	48
Table 1-22: Percent of Fully Allocated Operating Cost Covered by Passenger-Related Revenue, Rolling Average for Past Eight Quarters	49
Table 1-23: Passenger-Miles per Train-Mile, Rolling Average for Past Eight Quarters	49
Table 1-24: Change in Effective Speed, FY2018 Q1-Q4.....	50
Table 1-25: Endpoint OTP, FY2018 Q4	50
Table 1-26: All-Stations OTP, FY2018 Q4.....	51
Table 1-27: Total Delay and Top Two Largest Delay Codes for Amtrak-Responsible Delays, in Minutes of Delay per 10,000 Train Miles, FY2018 Q4	51
Table 1-28: Delay Code Explanations	52
Table 1-29: Total Delay and Top Two Largest Delay Codes for Host-Responsible Delays, in Minutes of Delay per 10,000 Train Miles, FY2018 Q4	52
Table 1-30: Delay Code Explanations	53
Table 1-31: Customer Satisfaction Indicator Scores, FY2018 Q4	54
Table 1-32: Georgia Public Grade Highway-Rail Crossings	68
Table 1-33: Measures of Rail Impact	76
Table 1-34: Total Economic Impacts by Type in Georgia.....	79
Table 1-35: Total Economic Impacts of Rail in Georgia by Type	79
Table 1-36: Annual Fuel and Emissions Savings to the U.S. of Georgia Rail.....	82
Table 1-37: Georgia vs. United States Sector Location Quotient (Second Quarter, November 2019)	92
Table 1-38: Forecast Change in Employment in Georgia by Occupation	93
Table 1-39: Georgia Freight Rail Flows by Direction (2017)	94
Table 1-40: Georgia Freight Rail Tonnage by Direction and Commodity (2017).....	95
Table 1-41: Status of Georgia Rail-Served Coal-Fired Power Plants.....	109
Table 1-42: Daily VMT (in thousands) by Functional Classification	121
Table 1-43: Projected Amtrak Ridership.....	121



Figures

Figure 1-1: Georgia's Rail System	3
Figure 1-2: CSX Georgia Lines and Subdivisions	6
Figure 1-3: CSX Rail Yards in Georgia.....	7
Figure 1-4: Norfolk Southern Georgia Rail Lines and Subdivisions.....	10
Figure 1-5: Norfolk Southern Georgia Rail Yards.....	11
Figure 1-6: GDOT Owned Rail Lines.....	15
Figure 1-7: 286K Compatibility	16
Figure 1-8: Clearance Restrictions	18
Figure 1-9: Number of Tracks	19
Figure 1-10: Amtrak Routes Serving Georgia	22
Figure 1-11: Tourist Railroads and Venues in Georgia	27
Figure 1-12: GA Port Facilities	29
Figure 1-13: Garden City Terminal – Current Configuration	30
Figure 1-14: Mason Mega Rail Project - Maximum Train Lengths at Completion	30
Figure 1-15: Georgia Intermodal Facilities	34
Figure 1-16: Automotive Facilities.....	37
Figure 1-17: Atlanta Peachtree Station	38
Figure 1-18: Savannah Station (SAV)	39
Figure 1-19: Jesup Station (JSP)	40
Figure 1-20: Gainesville Station (GNS).....	41
Figure 1-21: Toccoa Station (TCA)	41
Figure 1-22: Amtrak Ridership for Routes Serving Georgia, FY2012 to FY 2018	45
Figure 1-23: Amtrak Passenger-Miles for Routes Serving Georgia, FY2014-FY2017 (in Millions).....	46
Figure 1-24: Amtrak Ridership for Each Station in Georgia, FY2014 to FY2018	47
Figure 1-25: GDOT Short Line Funding	55
Figure 1-26: Rail-Related Accidents / Incidents in Georgia (20-year Trend)	63
Figure 1-27: Rail-Related Fatalities in Georgia (20-Year Trend)	64
Figure 1-28: Trespasser Fatalities (2014-2018)	65
Figure 1-29: Highway-Rail Crossing Fatalities (2014-2018)	66
Figure 1-30: Types of Warning Devices	67
Figure 1-31: Percentage of Crashes at Highway-Rail Crossings by Type of Warning Device	68
Figure 1-32: Multi-Accident Crossings in Georgia by Number of Incidents	70
Figure 1-33: Example of Channelization	73
Figure 1-34: Corridor Crossing Studies	74
Figure 1-35: Georgia's Industry Consumption and Production of Commodities	77
Figure 1-36: Overview of Direct, Indirect, and Induced Impacts.....	78
Figure 1-37: Economic Benefit of Rail in Georgia	78
Figure 1-38: Rail Industry Impacts in Georgia by Sector	80



Figure 1-39: Georgia and United States Cumulative Real GDP Growth (2000-2018)	83
Figure 1-40: Georgia and United States Sectors by Share of Real GDP (2018)	84
Figure 1-41: Georgia vs. United States Real GDP Growth by Sector (2000-2018)	85
Figure 1-42: Georgia and United States Year-Over-Year Percentage Growth in Population	86
Figure 1-43: Georgia Population in 2018.....	87
Figure 1-44: Counties with Highest and Lowest Projected Population Growth, 2018 - 2040.....	88
Figure 1-45: Georgia vs. United States Per Capita Personal Income.....	89
Figure 1-46: Personal Income Per Capita by County, 2018	90
Figure 1-47: Georgia vs. United States Year-Over-Year Employment Growth.....	91
Figure 1-48: Georgia Percent Employment by Sector in 2019	92
Figure 1-49: Commodity Distribution of Freight Rail Tonnage To/From/Within Georgia (2017)	96
Figure 1-50: 2017 Freight Rail Tonnage Terminating by Georgia County	97
Figure 1-51: 2017 Freight Rail Tonnage Originating by Georgia County	99
Figure 1-52: 2017 Freight Rail Tonnage by Terminating State for Freight that Originates in Georgia.....	101
Figure 1-53: 2017 Freight Rail Tonnage Originating State for Freight that Terminates in Georgia	102
Figure 1-54: 2017 Freight Rail Tonnage Originating State for Intermodal Freight that Terminates in Georgia	103
Figure 1-55: 2017 Freight Rail Tonnage by Terminating State for Intermodal Freight that Originates in Georgia	103
Figure 1-56: 2017 Freight Rail Tonnage Originating State for Intermodal Freight that Terminates at the Port of Savannah	104
Figure 1-57: 2017 Freight Rail Tonnage by Terminating State for Intermodal Freight that Originates at the Port of Savannah	104
Figure 1-58: 2008 - 2017 Freight Rail Tons Originating in Georgia.....	105
Figure 1-59: 2008 - 2017 Freight Rail Tons Terminating in Georgia	106
Figure 1-60: 2008 – 2017 Freight Rail Carloads/Units Terminating in Georgia	108
Figure 1-61: 2008 - 2017 Freight Rail Carloads/Units Originating from Georgia	108
Figure 1-62: Historic and Forecast Tonnage of Coal Terminating by Rail in Georgia	110
Figure 1-63: Percentage Change in Intermodal Rail Tonnage – Overall U.S. Compared to Georgia Originating and Terminating	110
Figure 1-64: Port of Savannah Twenty Foot Equivalent Units (TEUs) Handled	111
Figure 1-65: Past and Forecast Georgia Originating and Terminating Intermodal Tonnage	112
Figure 1-66: Percentage Change in U.S. Crushed Stone Production Tonnage and Georgia Originating and Terminating Non-Metallic Mineral Rail Tonnage	113
Figure 1-67: Past and Forecast Georgia Originating and Terminating Rail Non-Metallic Mineral Tonnage	113
Figure 1-68: Past and Forecast Georgia Terminating Rail Chemical Tonnage.....	114
Figure 1-69: Percentage Change in Rail Tonnage of Farm Products Terminating in Georgia Compared to Value of Georgia Agricultural Production in \$2017.....	115
Figure 1-70: Past and Forecast Georgia Terminating Rail Farm Product Tonnage.....	116
Figure 1-71: Past and Forecast Georgia Originating Rail Tonnage of Clay, Concrete, Glass and Stone	117



Figure 1-72: Percentage Change in Rail Tonnage of Wood or Lumber Products Originating from Georgia Compared to Georgia Roundwood Production	118
Figure 1-73: Past and Forecast Georgia-Originating Rail Tonnage of Wood and Lumber Products	119
Figure 1-74: Past and Forecast Georgia Originating Rail Tonnage of Pulp, Paper, and Allied Products	119
Figure 1-75: Georgia Annual Vehicle Miles Travelled (VMT) and Year-Over-Year Change 2008 - 2017	120
Figure 1-76: Gasoline and Diesel Prices - Actuals and Forecasts (2018\$)	122
Figure 1-77: Average Class I Railroad Network Velocity 2007 - 2017	124
Figure 1-78: Norfolk Southern and CSX System Average Weekly Network Velocity January 2016 -October 2019	124
Figure 1-79: Average Weekly Dwell Times for Key Georgia Terminals January 2016 - October 2019	125
Figure 1-80: Annual Delay per Auto Commuter Comparison - Atlanta Georgia vs. Very Large Urban Area National Average	126
Figure 1-81: 2015 (left) and 2050 (right) Georgia Highway Level of Service	127
Figure 1-82: On Time Arrivals: Major Georgia Airports vs. All Airports	130
Figure 1-83: On-Time Departures: Major Georgia Airports vs. All Airports	130
Figure 1-84: Georgia Population by Urban or Rural	131
Figure 1-85: Population Change 2010-2018	132



1. Introduction

This technical memorandum provides an overview and inventory of Georgia's existing rail system as a baseline for planning and decision making. It describes trends that will impact rail needs in the state.

1.1. Description and Inventory of Georgia's Rail System

At 4,684 miles, Georgia's rail network is the seventh largest in the nation. Most of Georgia's rail network is owned by private freight railroad companies. The following own Georgia's rail network:

- 4,061 miles owned by private freight railroads
- 464 miles are owned by GDOT
- 118 miles are owned by the Georgia State Properties Commission
- 41 miles are owned by the Georgia Ports Authority

Almost the entire network is operated by private freight railroads.

1.1.1. Freight Railroad Companies in Georgia

Railroad Classification Thresholds

The federal Surface Transportation Board (STB) separates railroad carriers operating in the United States into three classifications based on annual operating revenues. The STB last updated revenue thresholds in 2017 (see Table 1). Georgia's freight railroads are either large long-haul carriers (Class I) or smaller short line/terminal/switching carriers (Class III). Classification thresholds are shown in **Table 1-1**.

Table 1-1: Railroad Classification Thresholds

Railroad Classification	Revenue Threshold
Class I	\$447,621,226 or More
Class II	Between \$447,621,226 and \$35,809,698
Class III	Less than \$35,809,698

Seven Class I freight railroads operate in the United States. Two Class I's operate in the State of Georgia: **CSX Transportation** and **Norfolk Southern (NS)**.

All other railroads operating in Georgia fall into the Class III revenue threshold (short lines). As shown in **Table 1-2**, the Class I's operate the majority of trackage in Georgia (68percent combined). Short lines operate the remaining 32 percent. GDOT owns 465 active rail miles in the state which is leased to Class I and Short Line operators.



Table 1-2: Operating Route Mileage in Georgia

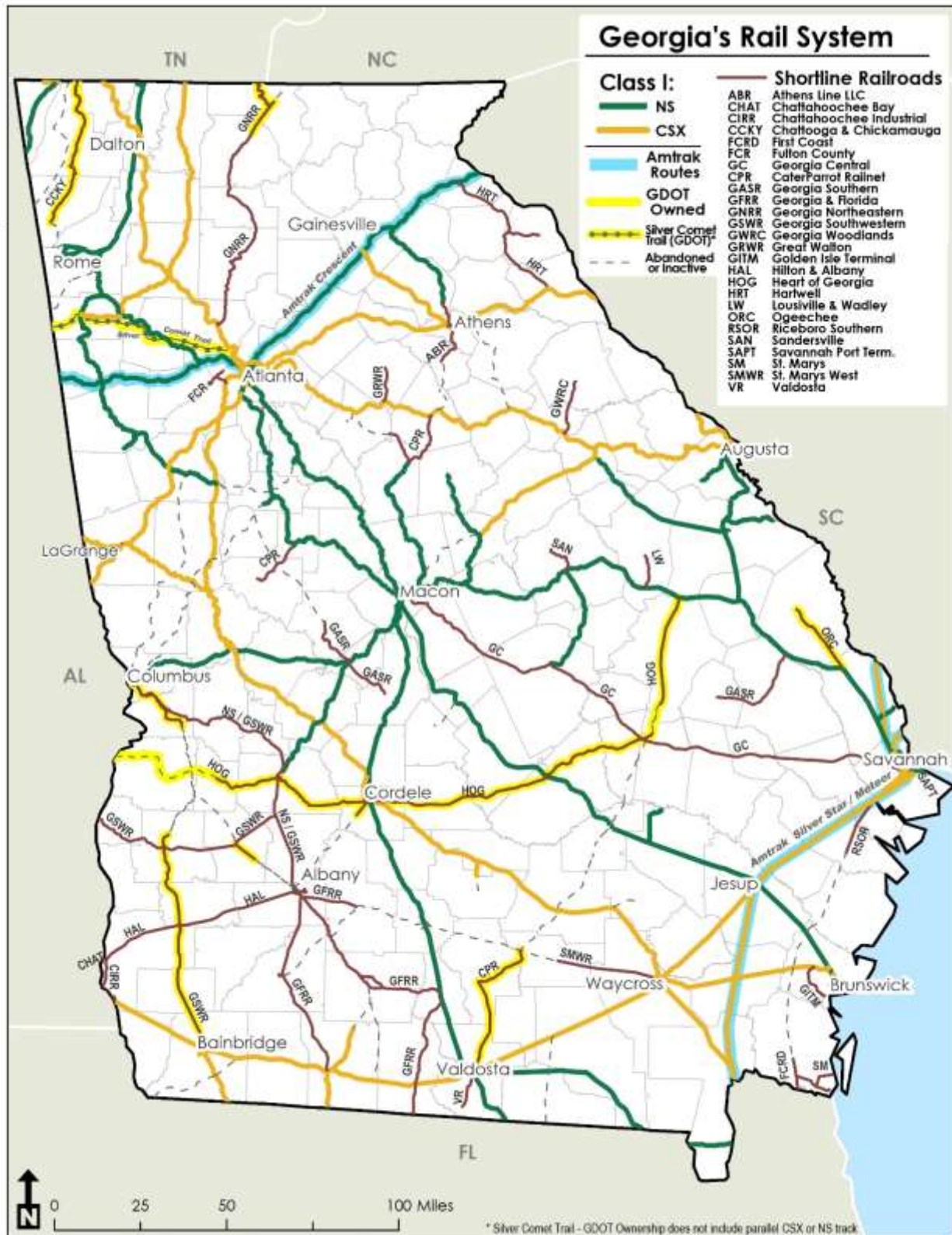
Railroad	Miles Operated Via Ownership or Lease (excludes trackage rights)	Percent
CSX	1,501	32%
Norfolk Southern	1,697	36%
Combined Short Lines	1,486	32%
Total	4,684	100%

Role of Class I and Short Line Railroads in Georgia

Class I railroads tend to focus on providing long-distance line haul service, connecting Georgia with other parts of the U.S., Canada, and Mexico. Short line (Class III) railroads tend to provide last-mile service, connecting Georgia businesses to the rail transportation network. These connections provide access to raw materials and global markets. **Figure 1-1** summarizes the Georgia rail network.



Figure 1-1: Georgia's Rail System





Class I Railroads

The Class I railroads operate almost 3,200 miles of railroad in Georgia, excluding trackage rights, mostly on track owned by the railroads. **Table 1-3** breaks down the operating railroad mileage.

Table 1-3: Total Class I Railroad Mileage Operated in Georgia (2019)

	CSX	Norfolk Southern
Line Owned	1,382	1,697
Line Operated Under Lease	118	0
Line Operated Under Contract	1	0
Line Operated Under Trackage Rights	75	9
Total Mileage Operated	1,579	1,706

Source: STB Schedule 702 Reports (2019)

CSX Transportation

Headquartered in Jacksonville, Florida, CSX Transportation operates about 21,000 route miles. All of CSX trackage is east of the Mississippi River. CSX, in combination with the rail network, provides its customers access to expansive and interconnected transportation network. **Table 1-4** shows commodity types transported by CSX.

Table 1-4: Commodities Transported by CSX

Agricultural products	Chemicals	Machinery	Minerals
Automotive	coal, coke and iron ore	Manufactured good	Oil, Gas and Drilling Materials
Bioenergy	Fertilizers	Metals	Paper, Pulp and Fiber Products
Building Materials	Food products	Military	Transportation Equipment

*Source – CSX Website <https://www.csx.com/index.cfm/customers/commodities/>

Overland routes to the west coast can be made with connections to western railroads. **Table 1-5** lists the main connection points with the western lines.

Table 1-5: Interchanges with Western Railroads

Birmingham, AL	Chicago, IL	Memphis, TN
Meridian, AL	Detroit, MI	St. Louis, MO



CSX provides service to many east coast ports. These ports are shown in **Table 1-6**.

Table 1-6: East Coast Ports Served by CSX

Miami, FL	Brunswick, GA	Wilmington, NC	Philadelphia, PA
Tampa, FL	Savannah, GA	Norfolk, VA	New York, NY
Jacksonville, FL	Charleston, SC	Baltimore, MD	Boston, MA

CSX owns and operates nearly 1,500 routes miles in Georgia that serve as links in the CSX network. The company also operates numerous rail yards that serve nodes in the CSX network in Georgia. The CSX network and yards are summarized in **Figure 1-2 and 2-3**.



Figure 1-2: CSX Georgia Lines and Subdivisions

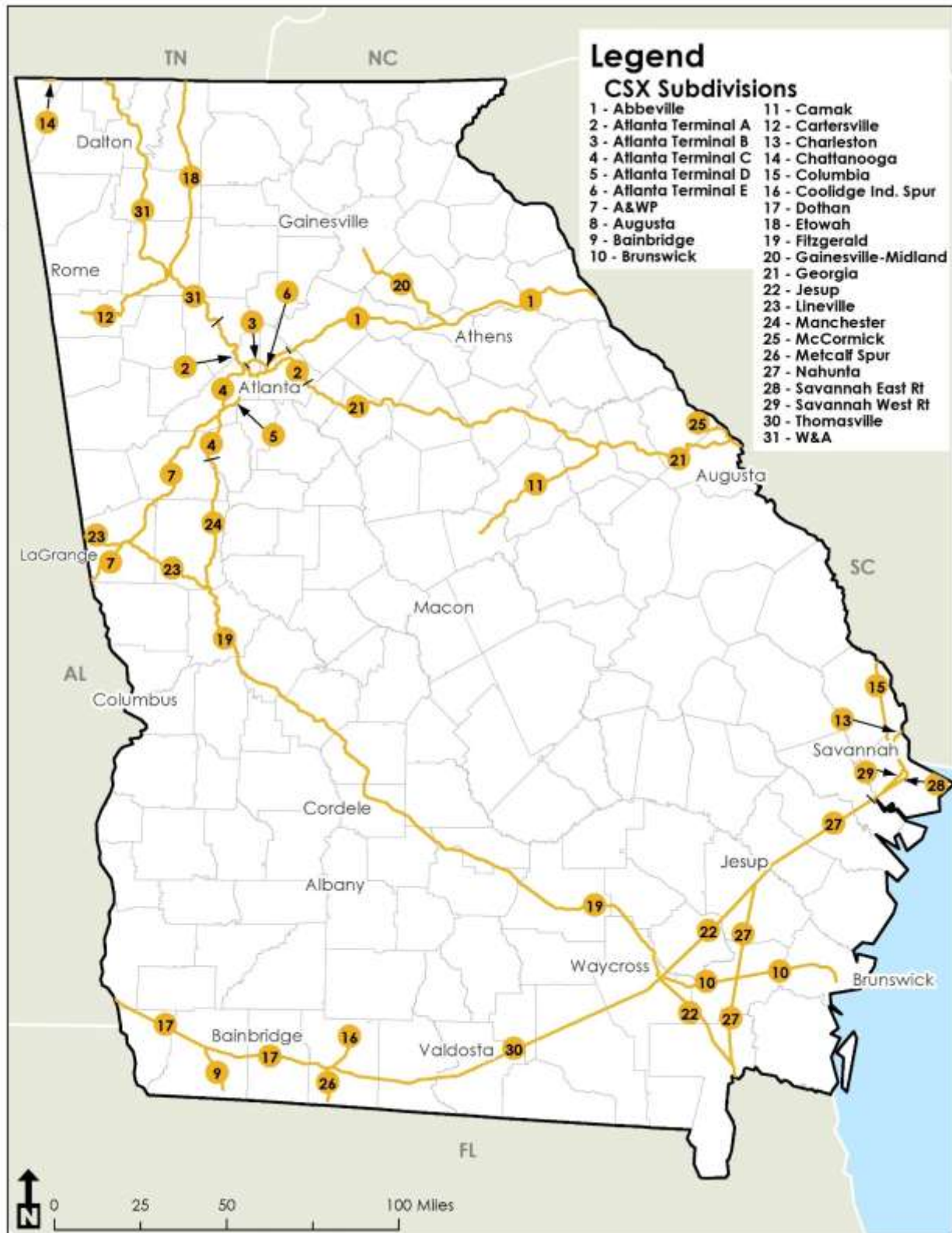
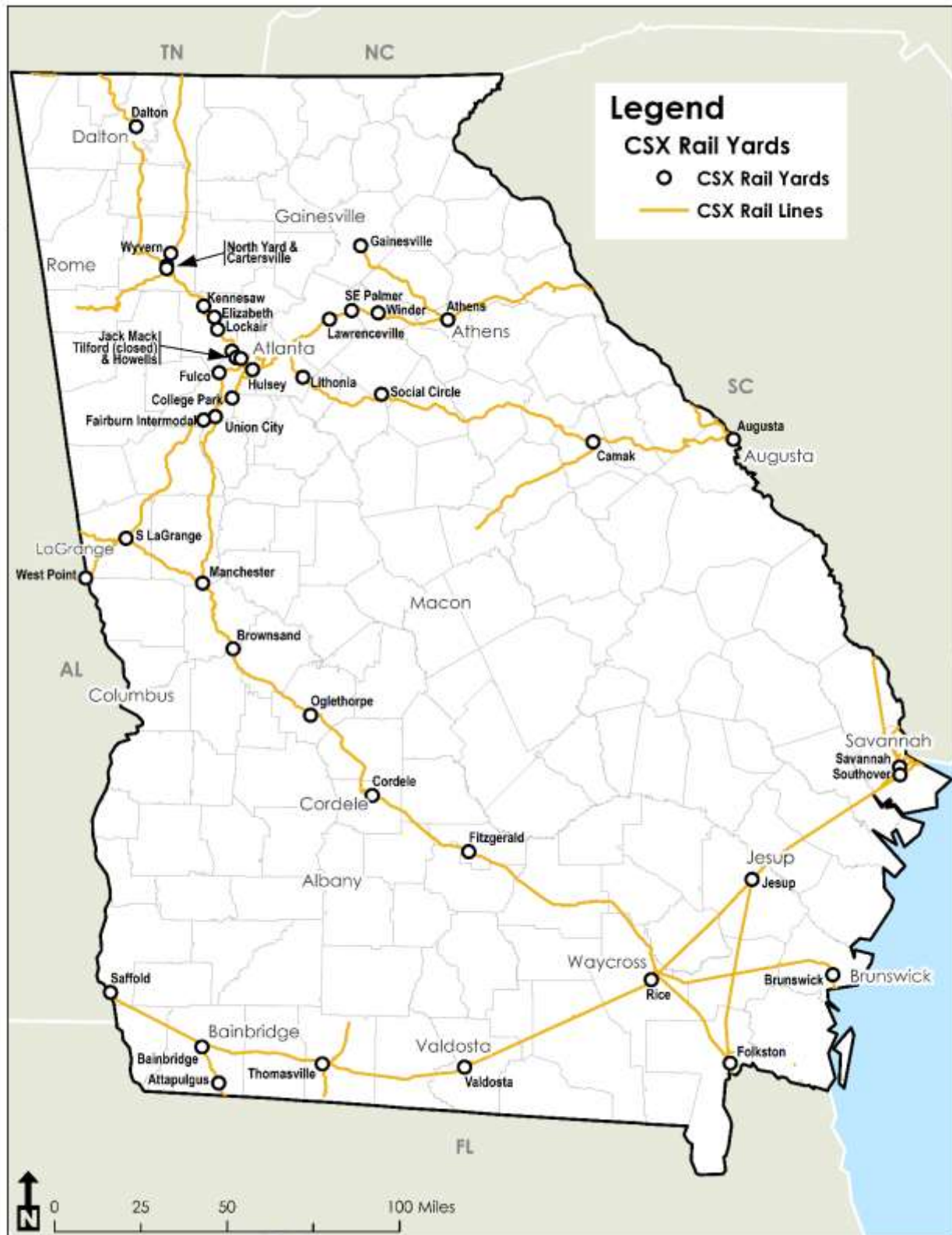




Figure 1-3: CSX Rail Yards in Georgia





Norfolk Southern

Soon to be headquartered in Atlanta, Norfolk Southern operates about 19,400 route miles of track in 22 states. The NS market area overlaps that of CSX and is in the eastern part of the U.S. with most rail lines east of the Mississippi River. NS provide connections with western carriers at multiple locations on its system, many of which are used for shipping freight to and from Georgia. These connections are described in **Table 1-7**.

Table 1-7: NS Connections to Western Carriers

Norfolk Southern Connection Points	
Connection Points to Western Carriers	Chicago, IL
	Kansas City, MO
	Memphis, TN
	Meridian, AL
	New Orleans, LA
	St. Louis, MO

In all, NS provides service to 43 ports. Major east coast ports served are shown in **Table 1-8**.

Table 1-8: NS Service to Major East Coast Ports

Charleston, SC	Jacksonville, FL	Miami, FL	Morehead City, NC
New York, NY	Norfolk, VA	Philadelphia, PA	Savannah, GA

In the state of Georgia NS owns about 1,735 miles of track and employs 4,710 people. The majority of NS carloads in Georgia are intermodal. Intermodal traffic makes up 78 percent of outbound carloads and 57 percent of inbound carloads (Georgia outbound and inbound carloads are broken down by commodity type in **Table 1-9 and 2-10**). The Norfolk South network and major rail yards in Georgia are summarized in **Figure 1-4 and 2-5**.

Table 1-9: NS Outbound Georgia Carloads by Commodity Type (2017)

Commodity Type	Percent of Total Outbound Carloads
Intermodal	78%
Paper, Clay & Forest	10%
Metals & Construction	7%
Agriculture	4%
Chemicals	1%

Source NS; <http://www.nscorp.com/content/dam/nscorp/get-to-know-norfolk-southern/about-norfolk-southern/state-fact-sheets/georgia-state-fact-sheet.pdf>



Table 1-10: NS Inbound Georgia Carloads by Commodity Type (2017)

Commodity Type	Percent of Total Inbound Carloads
Intermodal	57%
Coal	14%
Agriculture	13%
Automotive	5%
Chemicals	5%
Other	6%

Source NS: <http://www.nscorp.com/content/dam/nscorp/get-to-know-ns/about-ns/state-fact-sheets/ga-state-fact-sheet.pdf>



Figure 1-4: Norfolk Southern Georgia Rail Lines and Subdivisions

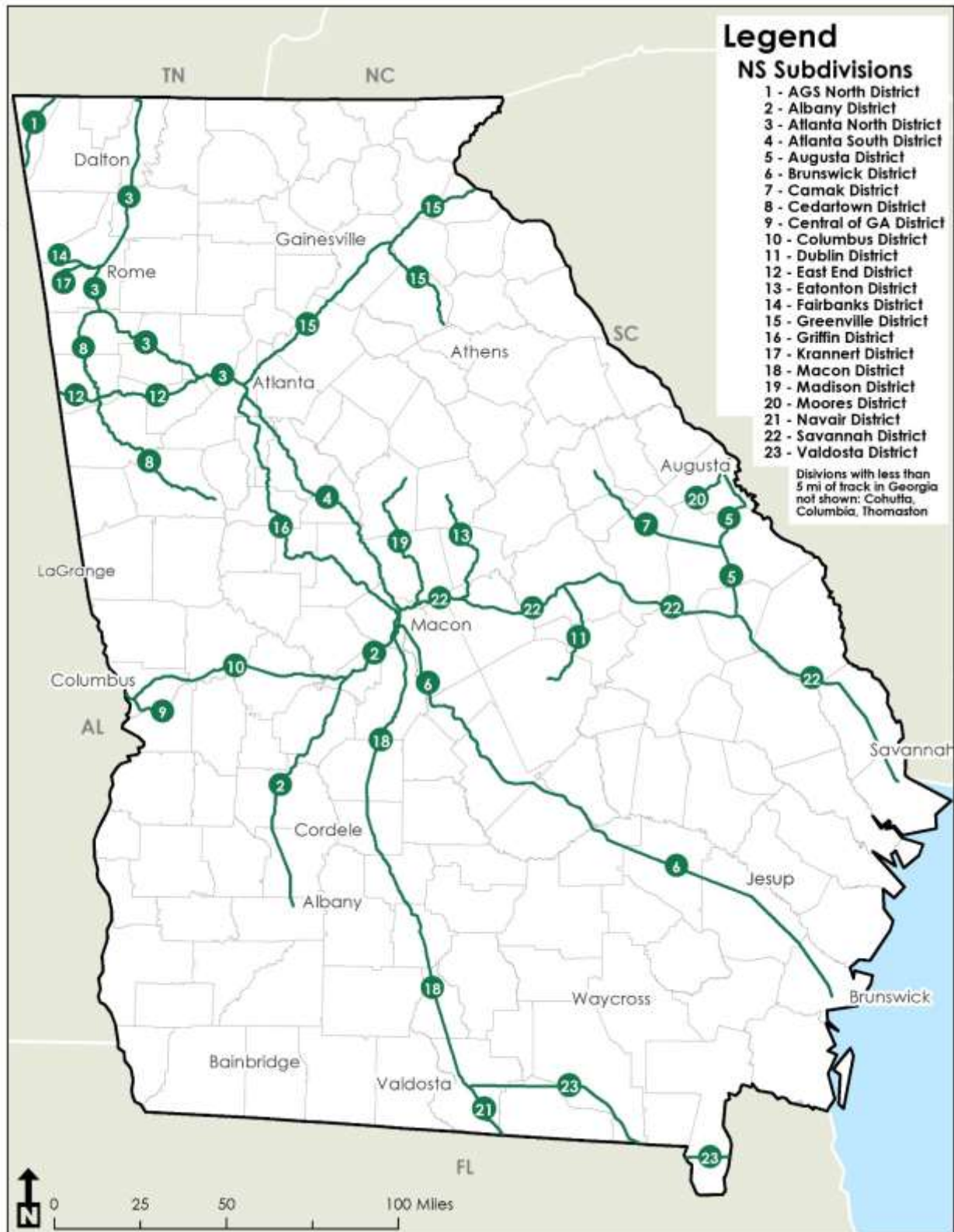
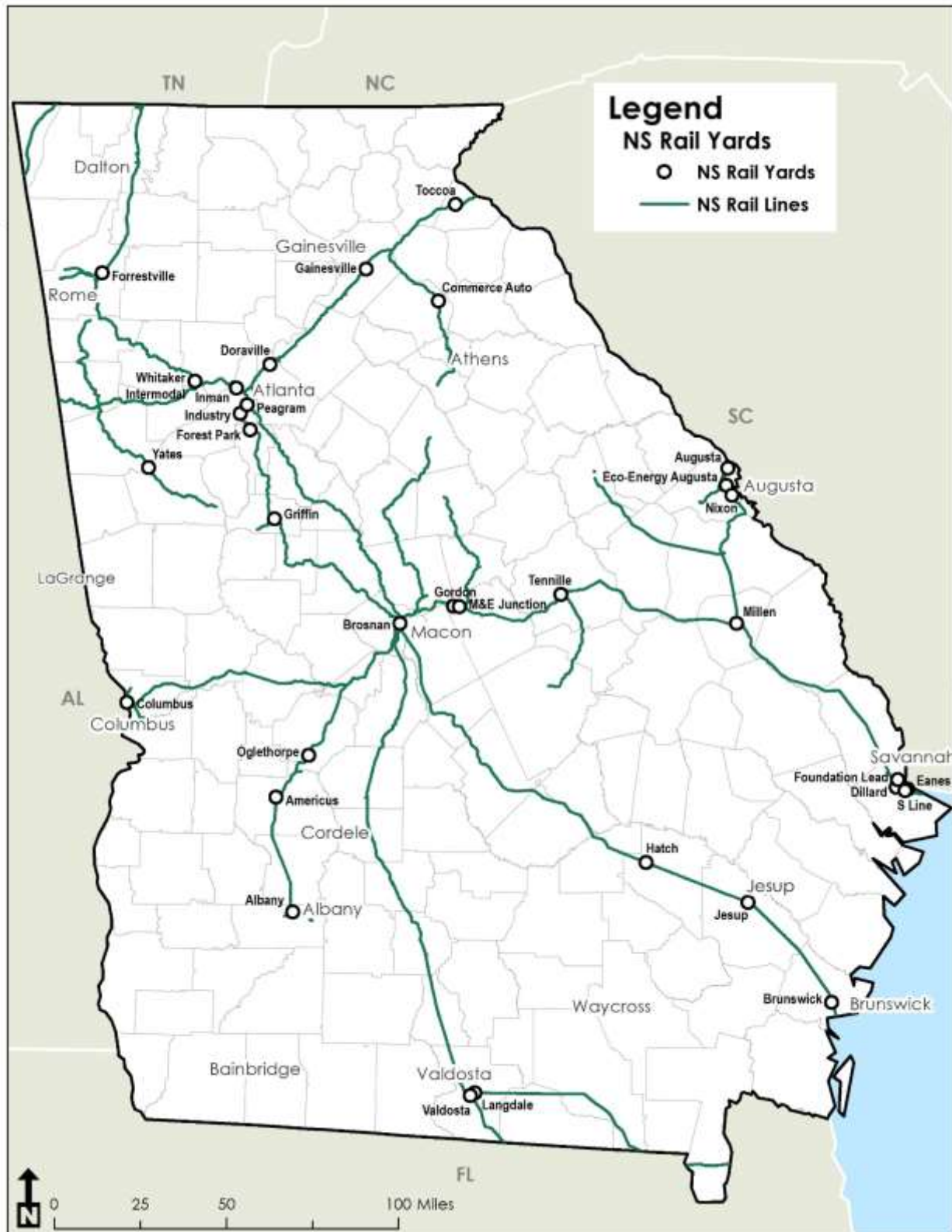




Figure 1-5: Norfolk Southern Georgia Rail Yards





Class II & III Railroads (Short Lines)

In addition to the two Class I railroads 29 Class III or short line rail carriers operate in Georgia. Short lines provide crucial transportation connections to business throughout Georgia. These connections provide access to raw materials and global markets. Fact sheets for all Georgia short line lines are available in Appendix A.

1.1.1. Short Line Holding Companies

Many short lines around the state are owned by holding companies which own a portfolio of short line railroads, including Genesee and Wyoming (G&W), Patriot Rail, OmniTRAX, and Pioneer Railcorp. Of the short line holding companies, Genesee & Wyoming has the most subsidiary railroads in Georgia, 14 short line railroads. **Table 1-11** describes all short lines operating in Georgia, total route mileage, owned track, leased track, and parent company. Short lines are displayed in **Figure 1-1**.

Table 1-11: Short Line Railroads in Georgia

Short Line	Operator/Owner	SCAC	Total Track Miles	Track Miles in Ga	Owned	Leased	Leased from Whom
The Athens Line	Anderson	ABR	38	38	-	-	-
CaterParrott Railnet	CaterParrott	CPR	95.7	95.7	-	95.7	GDOT & NS
Chattahoochee Bay Railroad	Genessee and Wyoming	CHAT	28.2	2	-	-	-
Chattahoochee Industrial Railroad	Genessee and Wyoming	CIRR	27	27	15.4	-	-
Chattooga & Chikamouga Railway Co.	Genessee and Wyoming	CCKY	48.9	48.9	-	48.9	GDOT
Columbus & Chattahoochee Railway Co	Genessee and Wyoming	CCH	32	1	-	-	-
First Coast Railroad	Genessee and Wyoming	FCRD	46	14	-	-	-
Fulton County Railway	Omnitrax	FCR	25	25	25	-	-
Georgia and Florida Railway	Omnitrax	GFRR	222	177	120	102	NS & CSX
Georgia Central Railway	Genessee and Wyoming	GC	211	211	211	-	-
Georgia Northeastern Railroad Co	Patriot Rail	GNRR	113.92	113.92	56	57.92	GDOT
Georgia Southern Railway	Pioneer Railcorp	GS	74	-	-	74	NS



Short Line	Operator/Owner	SCAC	Total Track Miles	Track Miles in Ga	Owned	Leased	Leased from Whom
Georgia Southwestern Railroad	Genessee and Wyoming	GSWR	234	217.5	59	89.5	GDOT & NS
Georgia Woodlands Railroad	Omintrax	GWRC	17.3	17.3	17	-	-
Golden Isles Terminal Railroad	Genessee and Wyoming	GITM	53	53	-	53	GA Ports Authority
Golden Isles Terminal Warf	Genessee and Wyoming	GITW	6.45	6.45	-	6.45	GA Ports Authority
Great Walton Railroad Co	Anderson	GRWR	10	10	10	-	-
Hartwell Railroad Co	Anderson	HRT	48	48	48	-	-
Heart of Georgia Railroad Inc	Genessee and Wyoming	HOG	233	231	-	231	-
Hilton and Albany	Genessee and Wyoming	HAL	55.5	55.5	-	55.5	NS
Louisville and Wadley	Private Citizens	LW	10	10	10	-	-
Ogeechee Railway	Local Company	OCR	22.3	22.3	-	22.3	GDOT
Riceboro Southern Railway, LLC	Genessee and Wyoming	RSOR	22	22	18.8	3.4	CSX
Sandersville Railroad	Tarbutton Family	SAN	35	35	35	-	-
Savannah Port Terminal Railroad, Inc.	Genessee and Wyoming	SAPT	22	22	-	22	GA Ports Authority
Southern Electric Railroad Co., Inc	Norfolk Southern	SERX	2.6	2.6	2.6	-	Operation Leased to NS
St. Marys Railroad	Boatright Companies	SM	18	18	18	-	-
St. Marys West Railway	Local Company	SMWR	35.4	35.4	35.4	-	-
Valdosta Railway, LP	Genessee and Wyoming	VR	14	14	14	-	-
Total			1,800.2	1,573.5	695.15	861.67	

In total, the 29 short lines operate over 1,600 miles of track, with over 1,400 miles within Georgia. The majority of mileage operated by short line railroads in Georgia is on rail lines leased from either GDOT, Class I carriers, or the Georgia Ports Authority.



State Owned Rail Lines

There are several rail lines owned by the Georgia Department of Transportation. The right to operate on these lines has then been leased to private companies. They include Chattooga & Chickamauga Railway (CCKY), CaterParrot Railnet (CPR), Georgia Northeastern Railroad (GNRR), Georgia Southwest Railroad (GSWR), Heart of Georgia (HOG), and Ogeechee Railroad Company (ORC). In all, GDOT owns 540 miles of track (465 active). The GDOT owned rail lines are displayed in **Figure 1-6**.

286K Lb. Weight Restrictions

In the 1990's the railroad industry adopted an industry standard of 286,000 pound gross weight (286k lbs.) for the maximum allowable loaded railcar weight that can travel over railroad tracks and bridges. Generally, the infrastructure on Class I railroads can accommodate railcars of 286k lbs. weight. However, in many cases the infrastructure on short line railroads has not been updated to these standards. Surveys issued to short line operators in Georgia reported that approximately 220 miles of track within the state are restricted to less than 286k lbs. capacity. This affects not only operational efficiency and competitive costs for the railroads and shippers, but also the opportunities for growth as many companies who need rail service require full 286k capacity service. Lines that cannot handle 286k lbs. are shown in **Figure 1-7**.

Issues preventing 286k lbs. capacity include old, light weight rail and components, tie conditions, and bridge conditions.

FRA Track Class

The FRA classifies track based on its condition, infrastructure, and frequency of inspections. The higher the track class, the faster that trains are permitted to run on rail lines. Surveys reported approximately 390 miles of track in FRA Excepted class, which means it is restricted to 10 mph or less. The railroad has made an agreement with the FRA that it is not required to meet minimum FRA standards but in return must be limited to 10 mile per hour operations, cannot accommodate passengers, chemicals or many other loadings. Often, Excepted track is in the poorest operational track condition, is prone to breakage and derailments, and. In addition, approximately 98 miles of track have slow orders, which are portions of the track in poor enough condition that require slower speeds than on the rest of the track.

Approximately 891 miles of track are currently in FRA track class 1 or better condition, and 167 miles of the reported trackage is Out of Service at this time.



Figure 1-6: GDOT Owned Rail Lines

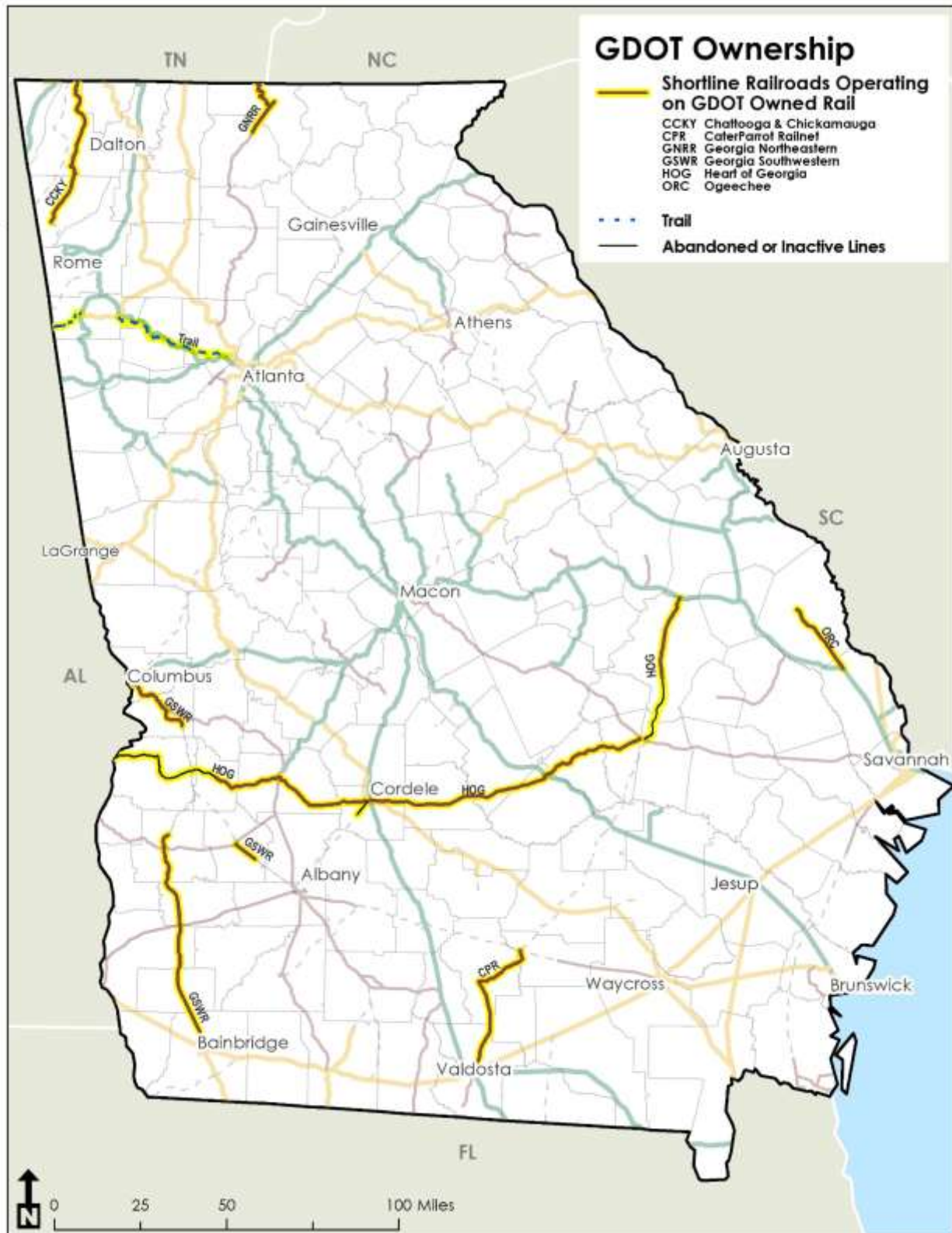
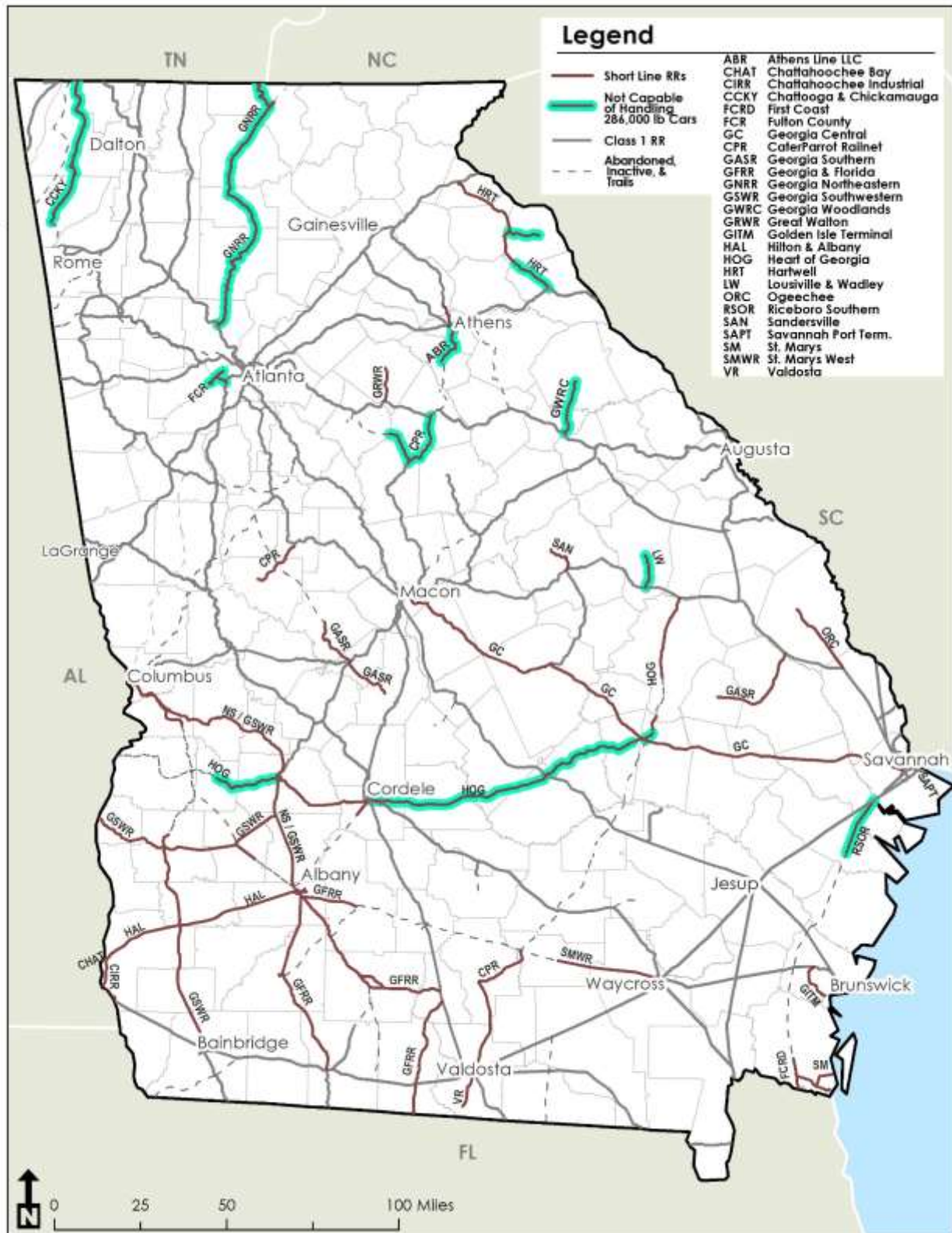




Figure 1-7: 286K Compatibility





Clearance Restrictions

When rail lines were built in Georgia, most railcars were no higher than 15.5 feet above the rails. Now, hi-cube boxcars are 17 feet above the rails, while certain double-stack intermodal cars and multilevel automotive flat cars are 20 feet 2 inches above the rails. For the most part, automotive and intermodal trains travel on Class I rail lines, since these railroads have large networks where long-distance intermodal and automotive networks can be established. However, there are exceptions. Until several years ago, Genesee & Wyoming subsidiary railroads, Georgia Central Railway and the Heart of Georgia Railroad provided an intermodal service between the Port of Savannah and Cordele. Even if rail lines do not handle automotive or double stack intermodal railcars, they could be required to accommodate hi-cube boxcars which require a 17-foot clearance.

As shown in **Figure 1-8**, most short lines cannot handle double stacking. The Georgia Central Railway running between Savannah and Macon is the main short line that is capable of handling double stacking. Most Class I railroad lines in Georgia can accommodate unrestricted double stack intermodal cars (two hi cube containers stacked on each other requiring 20' 2").

Dispatch Control System

The highest-density rail lines in Georgia are dispatched using centralized traffic control (CTC) whereby electric circuits in the tracks monitor the locations of trains. Railroad dispatchers at remote locations can manage train movements, controlling both signals and switches. For medium-density rail lines, the Automatic Block Signaling (ABS) system uses electronic circuits to monitor train locations. Signals indicate when sections of track or "blocks" are occupied by a train ahead. Unlike CTC, ABS cannot be controlled by a remote dispatcher. Rail lines without lineside signal systems are considered "dark" territory, and do not have electronic control systems. On these lines, train crews must obtain permission or warrants by radio, phone, or electronic transmission from a dispatcher before entering a section of track. The most commonly used systems in dark territory are Track Warrant Control (TWC) and Direct Traffic Control (DTC). Because these rail lines have low density of rail traffic, short line railroads are usually "dark territory." According to NS, 63 percent of the railroad's mileage in Georgia includes wayside signals that would either be ABS or CTC, while 37 percent are not signaled. Twenty eight percent of mileage is CTC. According to a previous version of the Georgia State Rail Plan, 79 percent of CSX's mileage in Georgia included wayside signals, either ABS or CTC, while 21 percent was not signaled. Thirty-nine percent of the mileage was CTC.



Figure 1-8: Clearance Restrictions

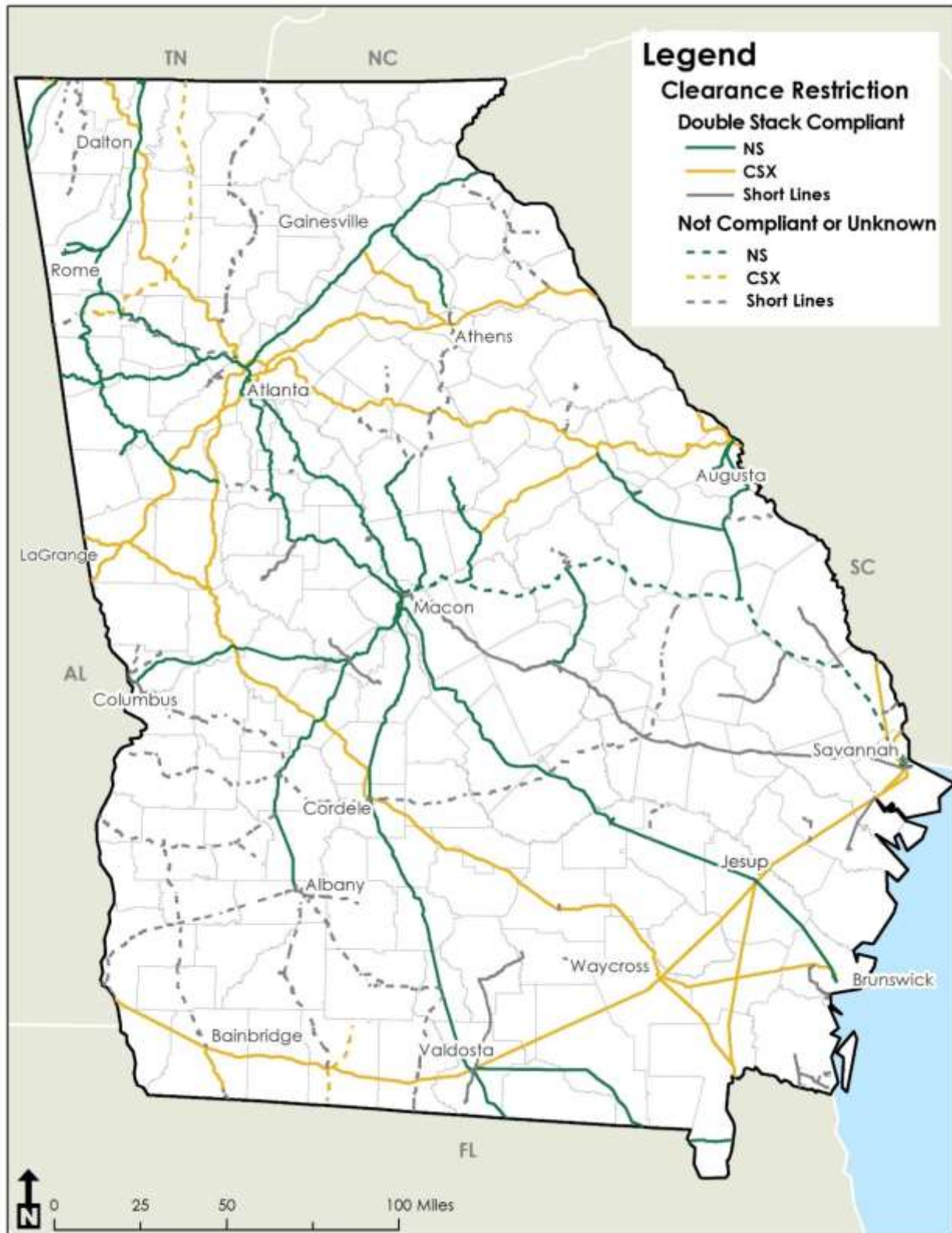
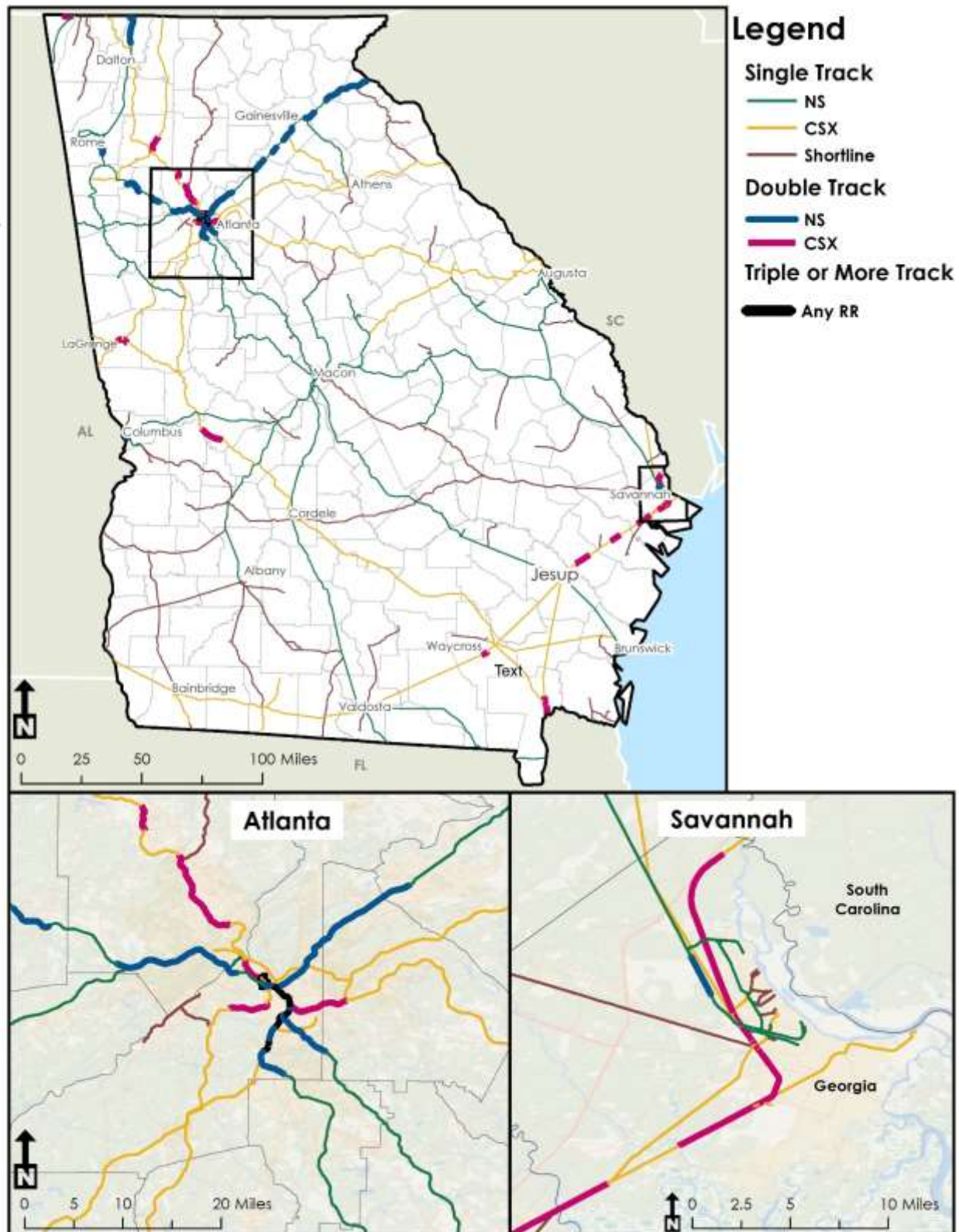




Figure 1-9: Number of Tracks





Abandoned and Railbanked Rail Lines

The U.S. rail network reached its peak extent in 1916 with 254,037 route miles, compared to 137,180 route miles today.¹ Because the U.S. rail network once had 85 percent more mileage, there exists within the U.S. a significant number of abandoned rail corridors. Like the U.S. in general, Georgia's rail network once had more mileage than today. Some areas of Georgia's rail network have been abandoned, and some rail lines continue to be abandoned.

To abandon a rail line, a railroad gains permission from the STB to discontinue service and sell the rail line. The primary requirement for discontinuance or abandonment is for the railroad to certify that no local traffic has moved of the rail line for two years, that any overhead traffic can be routed over other rail lines, and that no formal complaint has been filed by a shipper. More information on the process can be found on the STB website at

https://www.stb.gov/stb/public/resources_abandonment.html.

Since the 2016 Georgia State Rail Plan, the following rail abandonments have been consummated (process of abandonment completed),

- CSX abandonment of 25 miles on Camak Subdivision in Baldwin and Hancock Counties – STB Docket AB-55 Sub 783x, September 11, 2018
- Georgia Southwestern Railroad abandonment of 21.5 miles in Harris and Meriwether Counties – STB Docket AB-1000 Sub 1X, July 9, 2018
- Norfolk Southern Railway abandonment of 4.92 miles in Henry and Spalding Counties near McDonough – STB Docket AB-290 Sub 331X, March 9, 2017
- Norfolk Southern Railway abandonment of 5.06 miles in Crawford County – STB Docket AB-290 Sub 318X, December 15, 2016
- CSX abandonment of 0.23 miles in Ben Hill County near Fitzgerald – STB Docket AB-55 Sub 747x, April 26, 2016

Rail banking is a process established under National Trails System Act, 16 U.S.C. 1247(d) to preserve established railroad right-of-ways for future reactivation of rail service, to protect rail transportation corridors, and to encourage energy efficient transportation use. After initiating an abandonment proceeding, the railroad may form an agreement with any person, public or private, who would like to use the banked rail line as a trail or linear park until it is again needed for rail use. The STB has established a process for railbanking which can be reviewed here:

https://www.stb.gov/stb/public/resources_railstrails.html.

Since the last Georgia State Rail Plan in 2016, the following railbanking agreements were completed:

¹ The 1916 figure is from data collected the U.S. Interstate Commerce Commission, while the current route miles (2017) are from the Association of American Railroads.



- GDOT and CSX railbanking of 2.3 miles in Cobb County – STB Docket AB-55 Sub 784x, April 23, 2020
- City of Atlanta and CSX railbanking 4.4 miles near Oakland Junction, SE in Atlanta, Fulton County – STB Docket AB-55 Sub 777x, May 15, 2019
- City of Atlanta and CSX railbanking of about a mile of track in Fulton County, the “Kudzu Line” – STB Docket AB-55 Sub 778x, August 7, 2018
- City of Atlanta and Norfolk Southern railbanking as mile in Atlanta, Fulton County – STB Docket AB-290 Sub 388X, October 17, 2017
- Central of Georgia Railroad Company and Newton Trail railbanking of 14.9 miles in Newton County – STB Docket AB-290 Sub 343X, September 28, 2016.

1.1.2. Passenger Rail in Georgia

Intercity Passenger Rail Network - Amtrak

Georgia is served by four Amtrak routes: the *Palmetto*, *Silver Meteor*, *Silver Star*, and *Crescent*, shown in **Figure 1-10**. The *Palmetto* originates in New York City, follows the Interstate 95 corridor southwards down the Atlantic coast and then terminates in Savannah, Georgia. The *Silver Meteor* and *Silver Star*, which make up Amtrak’s *Silver Service*, also originate in New York City and follow the Palmetto route but onwards to Miami, Florida. Lastly, the *Crescent* operates between New York City and New Orleans. One additional route, the *Auto Train*, operates between Washington DC and Orlando, but does not make any stops in Georgia. There is currently no commuter or intercity corridor service provided in the state.

All four routes operate over the trackage of Class I freight railroads and utilize single-level train car equipment due to limited tunnel clearances between Washington DC and New York City. In Georgia, the *Crescent* operates on track owned by the Norfolk Southern Railway, while the other three routes operate on track owned by CSX Transportation. The *Crescent*, *Silver Star* and *Silver Meteor* are equipped with coaches, sleeping cars, and a Café Lounge car. The *Palmetto* is equipped with a Business Class car, coaches, and a Café Lounge car.

The Palmetto

The *Palmetto* operates one daily round-trip between New York City and Savannah. Other major stops along this route include Philadelphia, Washington, Richmond, and Charleston. Starting in New York City, the *Palmetto* departs at 5:51 AM and arrives in Savannah at 9:04 PM on the same day. The return trip departs Savannah at 8:20 AM and arrives in New York City at 11:58 PM. This schedule is shown in **Table 1-12**.

Figure 1-10: Amtrak Routes Serving Georgia



Source: Amtrak


Table 1-12: Daily Schedule for the *Palmetto*, showing Termini and Stops in Georgia

Southbound		Northbound	
City	Arrival/Departure Time	City	Arrival/Departure Time
New York City	5:51 AM (D)	Savannah	8:20 AM (D)
Savannah	9:04 PM (A)	New York City	11:58 PM (A)

Source: Amtrak Timetable. D = Departing, A = Arriving

The Silver Meteor

The *Silver Meteor* operates one daily round-trip between New York City and Miami. Other major stops along this route include Philadelphia, Baltimore, Washington, Richmond, Jacksonville, and Orlando. Starting in New York City, the *Silver Meteor* departs at 3:15 PM and arrives in Miami at 6:39 PM the following day, stopping in Savannah at 6:34 AM and Jesup at 7:35 AM. The return trip departs Miami at 8:10 AM and arrives in New York City at 11:00 AM the following day, stopping in Jesup at 6:29 PM and Savannah at 7:23 PM. This schedule is shown in **Table 1-13**.

Table 1-13: Daily Schedule for the *Silver Meteor*, showing Termini and Stops in Georgia

Southbound		Northbound	
City	Arrival/Departure Time	City	Arrival/Departure Time
New York City	3:15 PM (D)	Miami	8:10 AM (D)
Savannah	6:34 AM (A) 6:40 AM (D)	Jesup	6:29 PM (D)
Jesup	7:35 AM (D)	Savannah	7:23 PM (A) 7:31 PM (D)
Miami	6:39 PM (A)	New York City	11:00 AM (A)

Gray shading indicates the following day.

Source: Amtrak Timetable.

The Silver Star

The *Silver Star* operates one daily round-trip between New York City and Tampa and Miami. Other major stops along this route include Philadelphia, Baltimore, Washington, Richmond, Raleigh, Jacksonville, and Orlando. Starting in New York City, the *Silver Star* departs at 11:02 AM and arrives in Tampa at 12:23 PM and Miami at 5:58 PM the following day, stopping in Savannah at 4:13 AM. The return trip departs Miami at 11:50 AM and Tampa at 5:27 PM and arrives in New York City at 6:50 PM the following day, stopping in Savannah at 1:16 AM. This schedule is shown in **Table 1-14**.


Table 1-14: Daily Schedule for the *Silver Star*, showing Termini and Stops in Georgia

Southbound		Northbound	
City	Arrival/Departure Time	City	Arrival/Departure Time
New York City	11:02 AM (D)	Miami	11:50 AM (D)
Savannah	4:13 AM (A) 4:18 AM (D)	Savannah	1:16 AM (A) 1:22 AM (D)
Miami	5:58 PM (A)	New York City	6:50 PM (A)

Gray shading indicates the following day. D = Departing, A = Arriving

Source: Amtrak Timetable.

The Crescent

The *Crescent* operates one daily round-trip between New York City and New Orleans, making three stops in Georgia: Toccoa, Gainesville, and Atlanta. Other major stops along this route include Philadelphia, Baltimore, Washington DC, Charlotte, and Birmingham. Starting in New York City, the *Crescent* departs at 2:15 PM and arrives in New Orleans at 7:32 PM the following day, stopping in Toccoa at 6:15 AM, Gainesville at 6:58 AM, and Atlanta at 8:13 AM. The return trip departs New Orleans at 7:00 AM and arrives in New York City at 1:46 PM the following day, stopping in Atlanta at 7:35 PM, Gainesville at 8:59 PM, and Toccoa at 9:40 PM. **Table 1-15** presents the *Crescent*'s daily schedule.

Table 1-15: Daily Schedule for the *Crescent*, showing Termini and Stops in Georgia

Southbound		Northbound	
City	Arrival/Departure Time	City	Arrival/Departure Time
New York City	2:15 PM (D)	New Orleans	7:00 AM (D)
Toccoa	6:15 AM (D)	Atlanta	7:35 PM (A) 8:04 PM (D)
Gainesville	6:58 AM (D)	Gainesville	8:59 PM (D)
Atlanta	8:13 AM (A) 8:38 AM (D)	Toccoa	9:40 PM (D)
New Orleans	7:32 PM (A)	New York City	1:46 PM (A)

Green shading indicates the following day. D = Departing, A = Arriving

Source: Amtrak Timetable.

The Auto Train

The *Auto Train* operates between Lorton, Virginia and Orlando, Florida and allows passengers to travel with their automobile. This is an overnight train that only stops at the two terminal points. While the *Auto Train* does not make any stops in Georgia, it removes almost 225,000 vehicles that would likely travel on I-95 through Georgia, thus freeing up roadway capacity.

Tourist Rail Operations

Georgia's rich railroad history is preserved through tourist railroads, which showcase historic areas and scenic views. These rail trips are often complemented by rail depots and museums. In addition to providing an activity for tourists, historic railways help preserve equipment, buildings, artifacts,



and industrial skills from earlier eras. Railway excursions can range from 30 minutes to several hours in length and can include any number of stops or layovers.

The attraction of heritage railways to an area helps spur economic activity for nearby businesses, including restaurants, hotels, gift shops, and other visitor service establishments.

Three of Georgia's heritage railways, the Blue Ridge Scenic Railway, the Saint Marys Express, and the Stone Mountain Scenic Railway are for-profit companies. A third tourist railroad, The SAM Shortline, is operated by the state. The Tennessee Valley Railroad Museum is a non-profit organization located in Chattanooga, TN, that operates two excursions that cross into northwest Georgia. **Figure 1-11** shows a map of tourist railroads, museums, and other venues that inform the public about railroading's past in Georgia.

Blue Ridge Scenic Railway

The Blue Ridge Scenic Railway (BRSR) operates a passenger train on a four-hour, 26-mile roundtrip journey along the Toccoa River from the historic depot in Blue Ridge, Georgia to the sister towns of McCaysville, Georgia and Copperhill, Tennessee. The BRSR is a subsidiary of and run by the Georgia Northeastern Railroad, which leases the rail from GDOT.

SAM Shortline

The SAM Shortline allows visitors to ride in vintage 1949 cars through quaint towns in the heart of Georgia. Varying in length, the SAM Shortline routes originate either in downtown Cordele or the Georgia Veterans State Park just outside Cordele and travel through Leslie, Americus, Plains, and Archery. Depending on the route, the train will stop in a certain number of these towns, and passengers can disembark to explore the town's attractions. Plains is home to the Jimmy Carter National Historic Site Museum and the train depot which served as his presidential campaign headquarters, and Archery is the site of Jimmy Carter's boyhood home, which is now a museum. The SAM Shortline is operated by the Georgia Department of Natural Resources, and the rail lines are leased from GDOT.

St. Marys Express

The St. Marys Express provides themed excursions on around 10 select Saturdays throughout the year. The excursion is four miles in length and lasts around 1 hour and 15 minutes. The St. Marys Express is owned and operated by St. Marys Railroad.

Tennessee Valley Railroad

Although the Tennessee Valley Railroad (TVR) is in Chattanooga, Tennessee, it operates two excursions that enter Georgia. Services provided include a 28-mile roundtrip excursion between Chattanooga and Chickamauga, Georgia, and a 92-mile round-trip that operates between Chattanooga and Summerville, Georgia. In Georgia, TVR excursions run along rail that is owned by GDOT and leased to the Chattooga & Chickamauga Railway.

Stone Mountain Scenic Railroad

The Scenic Railroad is a five-mile loop around Stone Mountain. It is operated as part of the Stone Mountain Park and is included in the entry fee. The railroad, along with the park, is operated by Herschend Family Entertainment, but the rail is owned by the Stone Mountain Memorial Association.



Rail Museums and Other Venues

Rail museums and other venues educate and garner interest in the public for the historic and future rail industry. Museums offer exhibits that showcase artifacts from a variety of historic trains, explain the role of trains in developing the country, and tell stories of famous train rides. Many museums even offer hands-on experiences with restored equipment. Other venues include historic rail depots and a train viewing area. The following sections outline the four other rail-related tourist attractions in Georgia.

Southeastern Railway Museum

The Southeastern Railway Museum is in Duluth and showcases railroad and transit equipment that focuses on Southeastern railroads, including 90 items of rolling stock. The museum's mission is to educate the public on the cultural, technological, and historical importance of rail transportation in the Southeast. The museum also allows visitors to ride in restored cabooses behind restored antique diesel locomotives on standard gauge equipment on the museum premises.

Georgia State Railroad Museum

Operated by the Coastal Heritage Society, the Georgia State Railroad Museum is a historic site that boasts the most complete antebellum railroad of its kind in the world. The museum is in downtown Savannah at former repair shops for the Central of Georgia Railroad. Visitors can view an almost complete steam-era shop complex with a 17-stall roundhouse, operating turntable, machine shop, tender frame shop, power plant smokestack, boiler room, blacksmith shop, storehouse, lumber shed, carpenter's shop, coach shop, and paint shop. Visitors can also take a guided site tour by train, during which they can experience the turntable in action. Savannah's visitor center and history museum is located next door in the former passenger depot.

Folkston Depot

Highlighting the railroad heritage of Folkston, the Folkston Depot is home to the Folkston Railroad Transportation Museum and the "Cookie" Williams Model Train Room. Just down the street from the depot is a designated viewing area for the public, as the "Folkston Funnel" is located on the main artery for railroad traffic to and from Florida. The viewing area features lights, benches, fans, and a scanner to listen to radio traffic between trains.

Southern Museum of Civil War & Locomotive History

Located in Kennesaw, The Southern Museum of Civil War & Locomotive History aims to educate the public on the importance of rail during, and for rebuilding after, the Civil War. The museum is home to the nation's only full-scale reproduction of a belt-driven locomotive assembly line as part of the Glover Machine Works exhibit. The centerpiece of the museum is the *General* locomotive, which was commandeered by Union Civil War spies during the Great Locomotive Chase.



Figure 1-11: Tourist Railroads and Venues in Georgia



Source: GDOT



1.1.3. Major Freight Terminals

The following sections describe the multimodal rail facilities in Georgia. Included are port, intermodal, auto, and transload facilities in Georgia.

Port Facilities

Though Georgia has a relatively short coastline with only about 110 miles of coast, Georgia Ports, and the Georgia Ports Authority, play a major role in both the state's economy and the national logistics network. Both Class I railroads and several short line railroads serve the five seaport terminals, the inland river terminal, and the two inland dry port facilities. These facilities are shown in **Figure 1-12**.

Port of Savannah

The Port of Savannah is made up of two major terminals: Garden City Terminal and Ocean Terminal.

The Garden City Terminal is the largest single terminal in North America and the fourth busiest container port in the United States². Both class I railroads have facilities on the terminal. The Mason ICTF serves NS intermodal travel, while the Chatham ICTF serves CSX intermodal traffic, as shown in **Figure 1-13**. These facilities are both within the footprint of, and will be replaced by, the Mason Mega Rail project which will allow Garden City to handle one million containers lifts per year serving NS and CSX³. Additionally, the project will allow both NS and CSX to build 10,000 ft. trains by adding 97,000 ft. of new rail for a total of 179,000 ft. and increasing the number of working tracks from eight to eighteen⁴ as shown in **Figure 1-14**. In addition to the intermodal traffic, the Savannah Port Terminal Railroad switches and moves bulk goods at through the Garden City Terminal and Port Wentworth area adjacent to the north.

Ocean Terminal is a 200-acre breakbulk and Roll On-Roll Off (RO/RO) facility that processes wood, steel, automobiles, and farm equipment. It is served directly by NS on terminal which handles switching to CSX.

Port of Brunswick

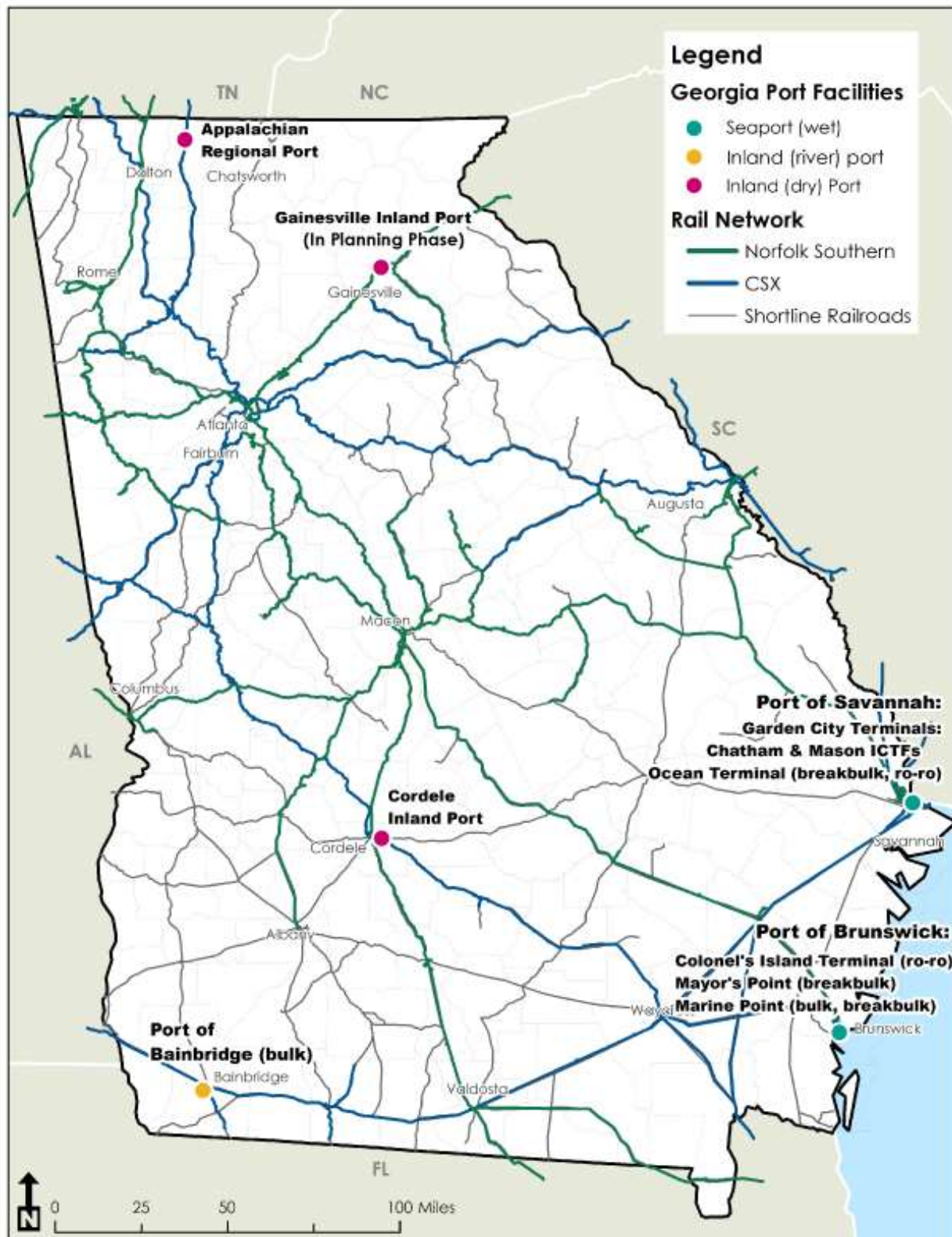
The Port of Brunswick is made up of three terminals: Colonel's Island Terminal, Mayor's Point Terminal, and Marine Point Terminal.

² <http://gaports.com/port-of-savannah/garden-city-terminal>

³ <https://www.masonmegarail.com/news/2019/10/14/savannah-moves-record-45m-teus>

⁴ Mason Mega Rail Brochure Feb2019

Figure 1-12: GA Port Facilities



Source: Georgia Ports Authority

Figure 1-13: Garden City Terminal – Current Configuration



Source: Port of Savannah Mega Rail Project Presentation, Christopher B Novack, PE, Georgia Ports Authority (2017)⁵

Figure 1-14: Mason Mega Rail Project - Maximum Train Lengths at Completion



Source: Port of Savannah Mega Rail Project Presentation, Christopher B Novack, PE, GA Ports Authority (2017)⁶

⁵ <http://aapa.files.cms-plus.com/2017Seminars/17Facilities/Chris%20Novack.pdf>

⁶ <http://aapa.files.cms-plus.com/2017Seminars/17Facilities/Chris%20Novack.pdf>



The **Colonel's Island Terminal** is the second busiest port for RO/RO cargo in the US⁷. Once a planned expansion is completed, there will be 150,000 automobile spaces which will allow for a capacity of 1.4 million vehicles annually. The terminal is equipped with an automotive ramp and is directly served by the Golden Isles Terminal Railroad which provides switching services to both NS at the Myd-Harris yard and CSX at the Anguilla Junction yard. Rail service mostly carries Mercedes for export from Alabama to the port, as well as imported Hondas shipped through the port to Detroit. A second rail ramp is planned to accompany the port's planned expansion. In addition to the extensive RO/RO facilities, the terminal formerly had a dedicated export agri-bulk facility but after suffering extensive hurricane damage was converted into additional terminal-adjacent RO/RO facilities.

Mayor's Point Terminal is a breakbulk facility that handles primarily forest and wood products with 355,000 ft² of covered storage adjacent to the berth. It is served by a shared CSX/NS line.

Marine Ports Terminal is a breakbulk and liquid and dry bulk facility that can handle a diverse set of commodities. It is leased to Logistec U.S.A and owned by the Georgia Ports Authority. It is served by the same CSX/NS line that serves Mayor's Point Terminal.

Port of Bainbridge

The Port of Bainbridge is an inland riverport on the Apalachicola-Chattahoochee-Flint (ACF) waterway. It is served by CSX and is a dry bulk facility that handles a diverse set of cargoes transported by barge. Low water levels on the ACF waterway and ongoing disputes between Georgia, Alabama, and Florida over water levels in the system threaten the port's ability to receive barge traffic. These low water levels ultimately caused the Port of Columbus, roughly 100 miles to the north on the ACF waterway, to stop functioning as a riverport since the last State Rail Plan.

Truck/Rail Intermodal Freight Facilities

Georgia serves as a key node in the U.S. intermodal rail network. The primary flows of the NS and CSX intermodal networks operate on a

WHAT IS AN INLAND PORT?

"Inland port" refer to a range of facilities that complement or duplicate seaport functions at inland locations

- Truck/rail intermodal terminal associated with specific seaport, which is how "inland port" is defined in this Rail Plan. Examples include the Appalachian Regional Port in Crandall, Inland Port Greer, in Greer, SC; Virginia Inland Port in Front Royal, VA
- Logistics park associated with truck/rail intermodal facility, but not specific to any one seaport. Examples include the CenterPoint Intermodal Center in Joliet, IL; Logistics Park KC in Kansas City, KS
- Logistics park associated with multiple modes, including truck, rail, sometimes aviation Examples include the Global Logistics Hub in Alliance, TX; Rickenbacker International Airport, Columbus, OH
- Transload facility (not containerized) that provides other logistics services. An example is the Port of Montana in Silver-Bow, MT

⁷ <http://gaports.com/Portals/2/Documents/Brochures/GPA-Brunswick-Brochure.pdf?ver=2018-11-15-193235-047>



triangular configuration which connect Chicago on the northwest corner, the greater New York metropolitan area on the northeast corner, and Georgia in the southeast corner. Georgia serves as a key hub in the Southeast.

The Port of Savannah is also a driver of Georgia's importance to the intermodal rail network. The Georgia Ports Authority seeks new opportunities to improve intermodal rail service between the Savannah and inland markets. Some of these efforts are focused at Savannah, such as the Mason Mega Rail project which will enhance the ability of CSX and NS to move containers between Savannah and both new and established inland markets. Others are aimed to establish new inland rail services with new inland ports. In this case, Georgia "inland ports" refer to truck/rail intermodal facilities sponsored by the Georgia Ports Authority which provide intermodal rail service between inland locations and the Port of Savannah. shows the locations of the intermodal facilities in Georgia, the capacity of each terminal in lifts per year, and Georgia intermodal routes with relative volumes carried.

Figure 1-15 shows the locations of the intermodal facilities, the relative lifts per year that the terminals are currently capable of performing, and the routes that intermodal trains use throughout the state and region with wider route lines representing greater units carried.

CSX Served Intermodal Facilities

CSX operates at four intermodal facilities within the state.

- **Fairburn Yard** is located approximately 20 miles southwest of Atlanta and is the only CSX Atlanta area intermodal facility. CSX closed its other Atlanta area facility, Hulsey Yard, to intermodal activity, and reopened it as a TRANSFLO train-to-truck (non-container) facility. Fairburn yard opened in 1999 and was recently expanded to become CSX's highest-volume southeast terminal, able to accommodate over 400,000 revenue lifts per year.⁸
- **Chatham Intermodal Container Transfer Facility (ICTF)** is the current CSX intermodal facility in the Garden City Terminal of the Port of Savannah and will be replaced by the Mason Mega Rail project. It currently has three 2,100 ft. working tracks and an additional 11,000 ft. of storage tracks⁹ and currently has the capacity to handle over 180,000 lifts per year. CSX The Savannah Port Terminal Railroad provides switching for CSX at this facility.
- **Savannah Yard** is about four miles inland from the Chatham Intermodal Container facility. The Savannah Yard serves as a regional intermodal hub for CSX, receiving blocks of cars from other facilities, including the Chatham ICTF. The facility has the capacity to perform over 100,000 lifts per year.
- **Appalachian Regional Port**, located in northwest Georgia in Murray county, is an inland port that opened in August of 2018. The terminal is operated by the Georgia Ports Authority. CSX provides service between Savannah and the inland port. It currently has

⁸ <http://www.milord.com/testgallery/csxi-fairburn-georgia/>

⁹ <http://onlinepubs.trb.org/onlinepubs/mb/2018spring/lynch.pdf>

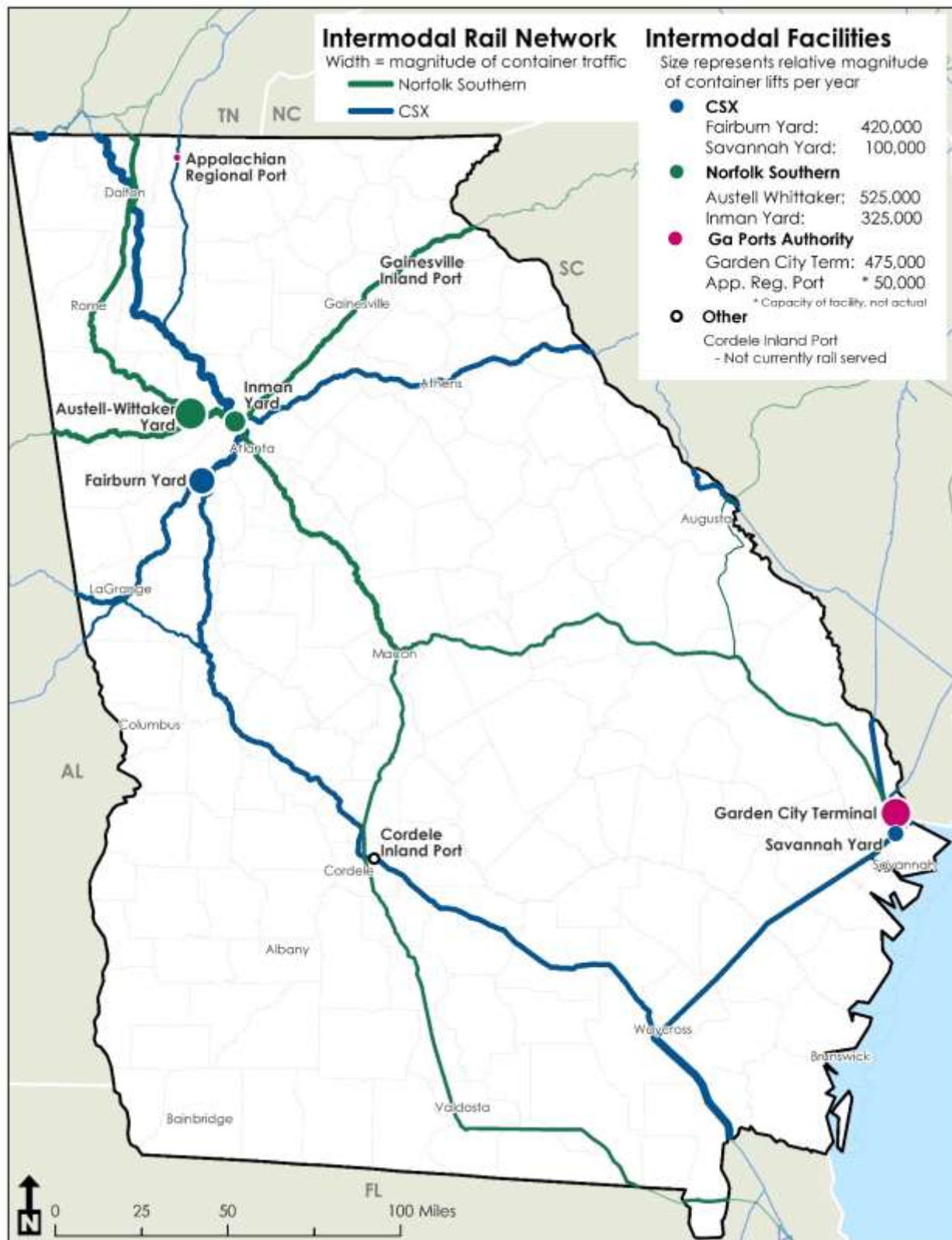


capacity to handle 50,000 containers per year, although a plan exists to double the terminal's capacity over the next ten years¹⁰.

¹⁰ <https://www.appalachianregionalport.com/>



Figure 1-15: Georgia Intermodal Facilities



Source: Norfolk Southern, CSX, GPA, ARC



NS Served Intermodal Facilities

NS currently operates at three intermodal facilities within the state and could serve a fourth if completed.

- **Inman Yard** is in the city of Atlanta, inside the Interstate 285 perimeter in the northwest between Interstates 75 and 20. It serves the Norfolk Southern Crescent Corridor and has over 300,000 lifts per year.
- **Whitaker Yard** is located roughly 15 miles west of Atlanta in Austell GA and is the larger of the two NS intermodal facilities in the Atlanta area. It is the major hub for NS southeast intermodal traffic with trains bound for the ports of Savannah, Charleston and Jacksonville as well as north and west bound traffic towards Chicago, Kansas, and California. It has over 500,000 lifts per year.
- **Mason ICTF** is the current NS exclusive access intermodal facility in the Garden City Terminal of the Port of Savannah. Prior to the Mason Mega Rail project, it had five 2,800 ft. working tracks and 8,000 ft. of storage tracks and could handle roughly 400,000 lifts annually. As of July 2019, the Mason Mega Rail project was 40% completed, with the first phase of the work focusing on laying new track in the Mason ICTF yard¹¹.
- **Gainesville Inland Port** is a planned inland dry port in Hall county along NS's existing Crescent line announced by the Georgia Ports Authority in 2018. It will be modeled of the successful opening of the Appalachian Regional port and will serve the growing northeast Georgia region along Interstate 85. It is slated to have a capacity of 150,000 lifts per year¹². This project is in the early planning phases and has not yet been funded.
- **Cordele Inland Port** was the first inland port facility in Georgia and is a 40-acre facility operated by Cordele Intermodal Services in partnership with Georgia Ports Authority. The facility had previously been served through a combined move of two short line subsidiaries of Genesee & Wyoming Inc., the Heart of Georgia Railroad, and the Georgia Central Railway with access to Garden City Terminal provided by CSX.¹³ As of early 2020 rail service has been suspended since cost effective access to the Garden City Terminal is no longer available to the service. The Georgia Ports Authority is investigating options for the service to regain Garden City access and recommence. The Cordele multimodal facility continues to benefit local shippers, since it is used as a container depot. This enables local shippers to leave and pick up empty containers at Cordele, rather than arrange for containers to be repositioned from the Port of Savannah.

¹¹ <http://aapa.files.cms-plus.com/2017Seminars/17Facilities/Chris%20Novack.pdf>

¹² <http://gaports.com/media/press-releases/artmid/3569/articleid/210/georgia-announces-new-inland-terminal-location>

¹³ <http://www.cordeleintermodal.com/cordele-inland-port/>



Truck/Rail Transload Facilities

“Transload” refers to a wide range of facilities where shippers can arrange for non-containerized freight to be transferred between truck and rail. Numerous transload facilities are located in Georgia. These fall into a number of categories based on the type of freight that is transferred:

- Team tracks are small sidings or spur tracks intended for the use of local shippers to personally load and unload products and merchandise, usually in smaller quantities
- Bulk transload facilities facilitate the transfer of liquied or dry bulk cargoes (e.g. chemicals, petroleum products, nonmetallic minerals) between truck and rail
- Dimensional transload facilities handle long products such as lumber, steel, rebar, or machinery
- Warehouse transload facilities are buildings with rail unloading capabilities. Most warehouses specialize in products shipped in boxcars

Automotive Rail Facilities

There are six automotive-rail loading/unloading facilities in Georgia that help support automotive manufacturing and distribution in Georgia and in the Southeast generally. **Table 1-16** lists the facilities, and **Figure 1-16** shows their locations.

As discussed previously, both of Georgia’s major seaports have RO/RO automotive cargo capabilities. Other rail automotive ramps operate in Georgia as well.

In West Point, Georgia, CSX loads new vehicles from the Kia Motors Manufacturing plant which began operation in 2010 and produces 340,000 vehicles annually.

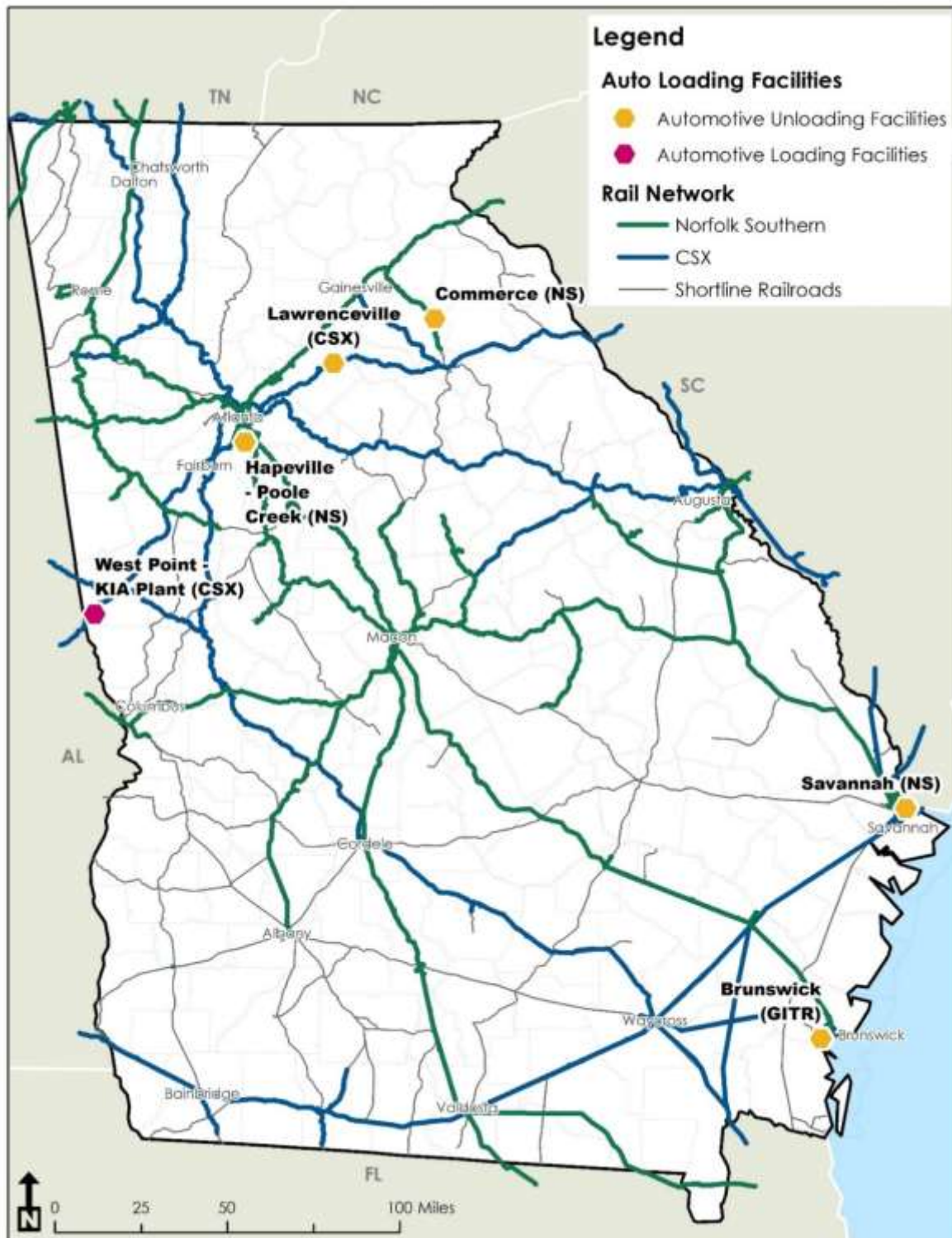
An additional three automotive-rail facilities in Atlanta and northeastern Georgia serve as automotive distribution points for dealerships throughout the region. NS owns the Poole Creek facility in Hapeville (Atlanta), Georgia, and unloads at a large private Toyota facility in Commerce. CSX, through its subsidiary, Total Distribution Services Inc. (TDSI) operates an unloading facility in Lawrenceville.

Table 1-16: Automotive Rail Facilities

Facility	Serving Railroad	Type of Facility	Loading	Unloading
Colonel’s Island Terminal, Port of Brunswick	GITR; CSX/NS	RO/RO Port	Mercedes-Benz	Mercedes-Benz, Toyota, Honda
Ocean Terminal, Port of Savannah	NS	RO/RO Port		Toyota
Kia Plant , West Point GA	CSX	Auto Plant	Kia	
Poole Creek, Hapeville GA	NS	Distribution		Chrysler, Ford
Toyota Commerce, Commerce GA	NS	Distribution		Toyota
Total Distribution Services Inc., Lawrenceville GA	CSX	Distribution		Chrysler, Ford, GM, Honda

Source: Automotive Facility Guide, Transportation Tech Center Inc., subsidiary of the Association of American Railroads; GPA

Figure 1-16: Automotive Facilities



Source: Automotive Facility Guide, Transportation Tech Center Inc., subsidiary of the Association of American Railroads; GPA



1.1.4. Passenger Rail Stations in Georgia

Rail stations serve not only as access points to trains but also as gateways to the cities served by these trains. Rail stations help promote economic development, tourism, cultural activities, civic pride, and historic preservation in their respective cities.

There are five Amtrak stations and four Amtrak routes in Georgia. Three stations, Atlanta, Gainesville, and Toccoa are served by the *Crescent*. The *Silver Meteor* serves both the Savannah and Jesup stations. The *Silver Star* and *Palmetto* both serve only the Savannah station, with the Savannah station being the *Palmetto*'s southern terminus. Station amenities are summarized after the individual station descriptions in **Table 1-17**.

Atlanta

The Peachtree Street Station in Atlanta, shown in **Figure 1-17** is served by the *Crescent*. It has the highest number of passengers of the five Amtrak stations in Georgia, with 72,197 riders in federal fiscal year 2018 (Ended September 30, 2018). Originally built in 1918 as one of three stations in Atlanta, it now is the only passenger station in the city. The station is located just north of Midtown in the Brookwood neighborhood. Passenger access to the station is limited due to the location as it is constrained by the adjacent rail line and surrounding roadways. Vehicular access is difficult because it is located on a busy roadway close to an intersection. Due to the station's small footprint and location next to the interstate, limited parking is available onsite. Amtrak has contracted with the America's Best Value Inn, located on the other side of Peachtree Street from the depot, to provide long-term customer parking. While the platform and waiting room of the station are wheelchair accessible, the restrooms are not (accessibility of all five Georgia stations is outlined in **Table 1-18**). Amtrak is currently exploring opportunities to relocate to a different facility with more space to allow for enhanced amenities and accessibility.

Figure 1-17: Atlanta Peachtree Station



The Peachtree Street Station is a full-service station with ticket agents and checked baggage service. The station also has Quik-Trak self-serve ticketing kiosks. Riders can access the station by MARTA bus route 110 which operates between Arts Center, Buckhead, and Lenox MARTA rail stations. At the time of this writing, Route 110 has a stop located directly across the street in the northbound direction. To access the Arts Center MARTA station, located roughly one mile south of Peachtree Street station, passengers have to walk two blocks south to catch the MARTA 110 bus route.. No bicycle parking facilities are available at the station.

Savannah

The Savannah Station, shown in **Figure 1-18**, served the second-highest number of riders in federal fiscal year 2018 at 53,769. The station was built in 1962 to replace the downtown Union Station, which was demolished for an interstate highway interchange. The station is the terminus of the *Palmetto* and is a pass-through station for the *Silver Meteor* and *Silver Star*. The station is located west of downtown Savannah, which makes accessing the station slightly inconvenient for pedestrians and bicyclists.

Served by six daily trains, the Savannah Station is a full-service station with ticket agents and checked baggage service. The station also has Quik-Trak self-serve ticketing kiosks. A large park-and-ride lot is available for daily or overnight parking. Passengers can access the station by the Chatham Area Transit (CAT) bus route 29. No bicycle facilities are available at the station.

Figure 1-18: Savannah Station (SAV)



Jesup

The Jesup station, shown in **Figure 1-19** and originally built in 1903, was damaged in a fire in 2003. In 2005, the building was designated a High Priority Project by the FHWA. The city was awarded federal funding of over \$800,000 for restorations to the building, which were completed in 2013. Situated in the heart of downtown Jesup, the new station now also houses a community meeting space and a welcome center with offices for the Wayne County Board of Tourism. The station served 9,461 riders in federal fiscal year 2018. The *Silver Meteor* and *Silver Star* both pass through Jesup on the way to Miami, but only the *Silver Meteor* stops at the station. Due to its central location and the extensive pedestrian infrastructure nearby, it is easy for pedestrians and bicyclists to access the station from downtown. No bicycle parking facilities are available at the station.

With two daily trains, the Jesup Station is not staffed by ticket agents and does not have checked baggage service. Daily and overnight parking are available adjacent to the station.

Figure 1-19: Jesup Station (JSP)



Gainesville

Located near downtown Gainesville, the city's Amtrak station, shown in **Figure 1-20**, is served the *Crescent* route. The depot was initially built by the Southern Railway in 1910, and has since been improved by Norfolk Southern, which owns the building and utilizes it for office space. In fiscal year 2018, the station facilitated 5,032 arrivals/departures. The station's location facilitates easy pedestrian and bicycle access from downtown. No bicycle parking facilities are available at the station.

The Gainesville Station is not staffed by ticket agents and does not have checked baggage service. Daily and overnight parking are available adjacent to the station. While not directly served by transit, the station is located only a few blocks from the Hall Area Transit Bus Transfer Station in downtown, which is served by all five Gainesville Connection bus routes.

Figure 1-20: Gainesville Station (GNS)



Toccoa

The Toccoa Station shown in **Figure 1-21** is the only flag stop in Georgia, which means the daily *Crescent* trains that pass through will only stop if the crew knows ahead of time that a passenger will be boarding or alighting at the stop. The station served 2,324 passengers in fiscal year 2018. The depot is also used by the Toccoa-Stephens County Chamber of Commerce and Welcome Center, the Stephens County Historical Society, the Currahee Military Museum, and a gift shop. The station is in the center of Toccoa, and is surrounded by pedestrian infrastructure, and so is easily accessible by pedestrians and bicyclists. No bicycle parking facilities are available at the station.

Served by two daily trains, the Toccoa Station is not staffed by ticket agents and does not have checked baggage service. Daily and overnight parking is available in a lot adjacent to the station, which includes two electric vehicle charging stations.

Figure 1-21: Toccoa Station (TCA)





Table 1-17: Georgia Amtrak Station Amenities

Location	Atlanta	Gainesville	Jesup	Savannah	Toccoa
Served By:	<i>Crescent</i>	<i>Crescent</i>	<i>Silver Meteor</i>	<i>Palmetto, Silver Meteor, Silver Star</i>	<i>Crescent</i>
Address	1688 Peachtree St, N.W. Atlanta, GA 30309	116 Industrial Blvd, Gainesville, GA 30501	176 N.W. Broad St. Jesup, GA 31545	2611 Seaboard Coastline Dr. Savannah, GA 31401	47 N. Alexander St. Toccoa, GA 30577
Type of Stop	Urban	Rural/Small Community	Rural/Small Community	Urban	Rural/Small Community – Flag Stop
Owner	Station Facility and Platforms owned by Southern Ry, A&C Div.	Station Facility and Platforms owned by Norfolk Southern RR	Facility – City of Jesup Platforms – CSX RR	Station Facility and Platforms owned by Savannah Economic Development Authority	Facility – City of Toccoa Platforms – Norfolk Southern RR
Platform Type	Single	Single	Single	Single	Single
Shelter	Covered Platform	Canopy Adjacent to Depot	Canopy Adjacent to Depot	Covered Platform	Canopy Adjacent to Depot
ADA Compliance	Waiting room and platform wheelchair accessible; not all other station facilities accessible	Platform wheelchair accessible; not all other station facilities accessible	Waiting room, platform, and restroom wheelchair accessible; not all other station facilities accessible	Waiting room and platform wheelchair accessible; not all other station facilities accessible	Waiting room, platform, and restroom wheelchair accessible; not all other station facilities accessible
Depot Hours	7:00 AM - 9:30 PM	7:00 AM – 8:30 AM & 8:00– 9:30 PM	6:30 AM -8:00 PM	12:00 AM – 1:30 PM 5:15 PM – 11:59 PM	6:30 – 7:30 AM & 9:00 – 10:30 PM
Restrooms	Yes	No	Yes	Yes	No
Vending	Yes	Yes	No	Yes	No
Ticketing	Staffed Counter, Baggage Service, Quik-Trak Kiosk	None	None	Staffed Counter, Baggage Service, Quik-Trak Kiosk	None
Shared Uses	None	Norfolk Southern RR Offices	Wayne County Board of Tourism Offices, Welcome Center, Community Meeting Space	None	Toccoa-Stephens County Chamber of Commerce Offices, Welcome Center, Stephens County Historical Society, Currahee Military Museum, Gift Shop
Transit Connections	MARTA Bus Route 110	All five Gainesville Connection routes – 2000 ft from station	None	CATS Route 29	None

Source: Amtrak website

Station Accessibility

The Americans with Disabilities Act of 1990 (ADA) mandates that no individual with a disability can be excluded from participation in or be denied benefits of services of a public entity because of their disability. Therefore, it is important that stations are accessible by all users. **Table 1-18** outlines the accessibility of the features of all five Georgia stations. In the table, “Yes” indicates this feature is ADA compliant in the station; “No” indicates this feature is not ADA compliant in the station; and “N/A” indicates this feature is not present in the station. For example, the Atlanta and Savannah stations have restrooms, but they are not ADA accessible. It is important to note that, since it is a flag stop, the Toccoa station is not required to be ADA compliant.



Table 1-18: ADA Accessibility of Station Features

Station Feature	Station				
	Atlanta	Gainesville	Jesup	Savannah	Toccoa
Platform	Yes	Yes	Yes	Yes	Yes
Restrooms	No	N/A	Yes	No	N/A
Ticket Office	Yes	N/A	N/A	Yes	N/A
Waiting Room	Yes	No	Yes	Yes	Yes
Water Fountain	Yes	Yes	Yes	No	No
Parking (same-day and overnight)	Yes	Yes	Yes	Yes	Yes
High Platform	No	No	No	No	No
Wheelchair Available	Yes	No	No	Yes	No
Wheelchair lift	Yes	Yes	Yes	Yes	Yes

Source: Amtrak website

1.1.5. Objectives for Passenger Rail Service

As is discussed in further depth in Chapter 3, the vision, goals, and objectives of Georgia's rail system have been developed in recognition of the important role rail transportation plays in improving the state's economy, environment and mobility. The goals and objectives of the State Rail Plan include support for improving and expanding the passenger rail system in the state. This goal has been confirmed through extensive public engagement demonstrating the desire for more passenger rail service throughout the state. The objectives to improve and expand passenger rail include:

- Coordinate initiatives with host railroads to improve Amtrak service reliability.
- Increase access to passenger rail services for all users.
- Facilitate collaborative partnerships and relationships with host railroads to enable passenger rail growth.
- Participate in multi-jurisdiction and multi-state partnerships to improve and expand passenger rail in the southeast.
- Seek opportunities with both public and private entities to expand passenger rail service.
- Leverage available funding, finance, and public-private partnership opportunities for capital improvements.

Nearly 80 percent of survey respondents stated that their primary interest for the rail plan is related to passenger rail. Of these respondents, only 32 percent have used Amtrak in Georgia. About 82 percent of respondents would be more likely to use Amtrak if there were more routes available. Respondents also stated that they would be more likely to use Amtrak if the travel time was faster (39 percent), there were more stations available on existing lines (36 percent), or more frequent service (35 percent). Over 95 percent of respondents commented that commuter rail is a critical



need in the state. Based on the public input through the outreach and survey process support continued investment and planning for passenger rail in the state.

1.1.6. Performance Evaluation of Intercity Passenger Services

This section offers performance metrics for Amtrak passenger services in the state using three categories: route based ridership, station based ridership, and route based metrics from Section 207 of the Passenger Rail Investment and Improvement Act (PRIIA). Sec 207 requires that Amtrak and the FRA jointly develop route-specific performance measures and related targets to help determine where improvements are needed.

National Ridership Trends

In FY 2019, Amtrak recorded 32.5 million trips annually up from 31.7 million trips in FY 2018. This is approximately 89,100 trips daily for FY 2019 on more than 300 Amtrak trains. Seventy percent of the Amtrak miles travelled nationally are on “host railroads.” In Georgia, Amtrak is hosted by CSX and NS.

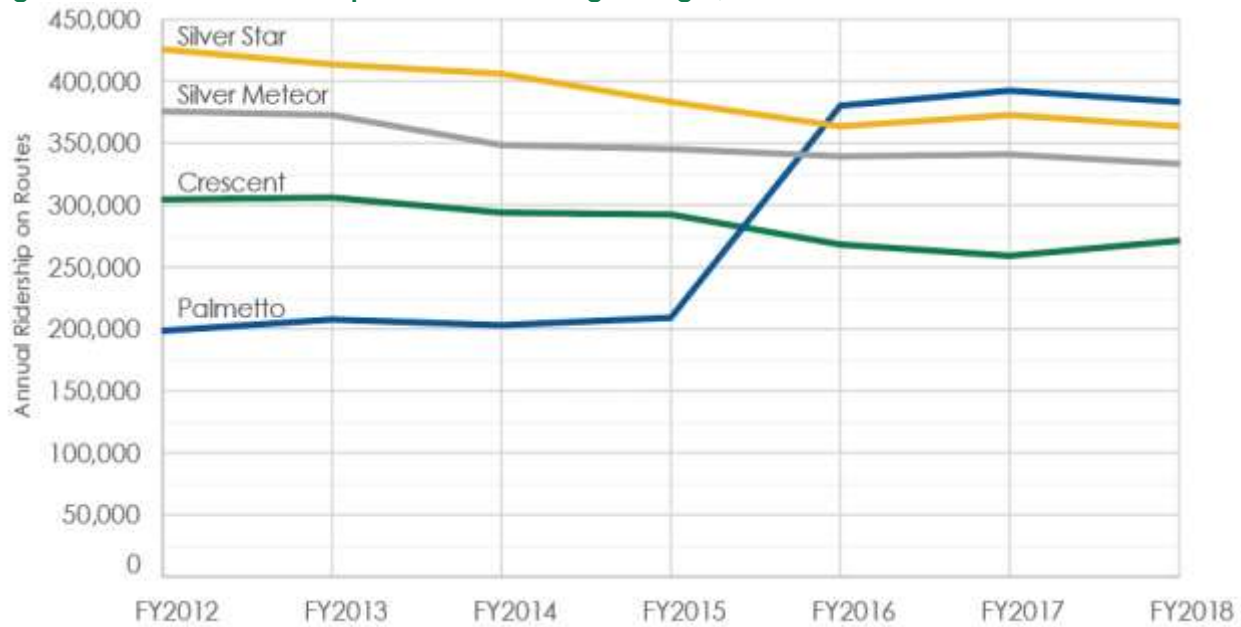
Route Ridership

As noted previously, four Amtrak routes operate in the state: The *Crescent*, *Palmetto*, *Silver Meteor*, and *Silver Star*. **Figure 1-22** and **Table 1-19** shows the route ridership trends for these routes. As with many Amtrak long distance routes, the routes serving Georgia have experienced a slight decline in ridership during the period except for the *Palmetto*. Between FY2015 and FY2016 local stops along the *Palmetto* route were added in Maryland (BWI Airport and New Carrollton) and New Jersey (Princeton, New Brunswick, and Metropark) to reduce redundancy in the North-East Corridor. This operational shift resulted in an 80+% improvement in route ridership in a single year. **Figure 1-23** presents the routes’ performance in terms of passenger-miles¹⁴, which show similar trends as those seen in the annual ridership counts. Overall the three routes that serve coastal Georgia have stronger ridership than the *Crescent* that serves north Georgia.

¹⁴ A passenger-mile is defined as moving one passenger one mile.



Figure 1-22: Amtrak Ridership for Routes Serving Georgia, FY2012 to FY 2018



Source: RPA Fact Sheets for Crescent, Palmetto, Silver Meteor, and Silver Star Services.

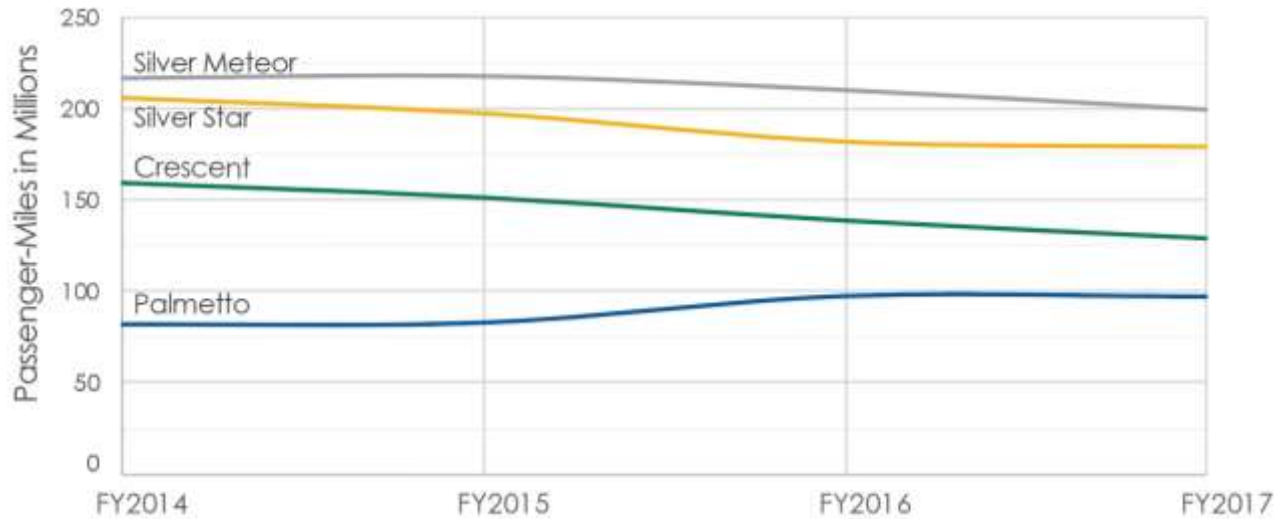
Table 1-19: Route Ridership FY2014 - FY2018

Route	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	% Change FY14-FY18
<i>Crescent</i>	294,300	291,800	268,300	258,900	271,400	-8%
<i>Palmetto</i>	203,200	208,600	380,800	391,900	383,300	89%
<i>Silver Meteor</i>	348,600	346,100	339,400	341,400	332,800	-5%
<i>Silver Star</i>	405,700	383,300	364,300	373,400	363,900	-10%

Source: RPA Fact Sheets for Crescent, Palmetto, Silver Meteor, and Silver Star Services



Figure 1-23: Amtrak Passenger-Miles for Routes Serving Georgia, FY2014-FY2017 (in Millions)



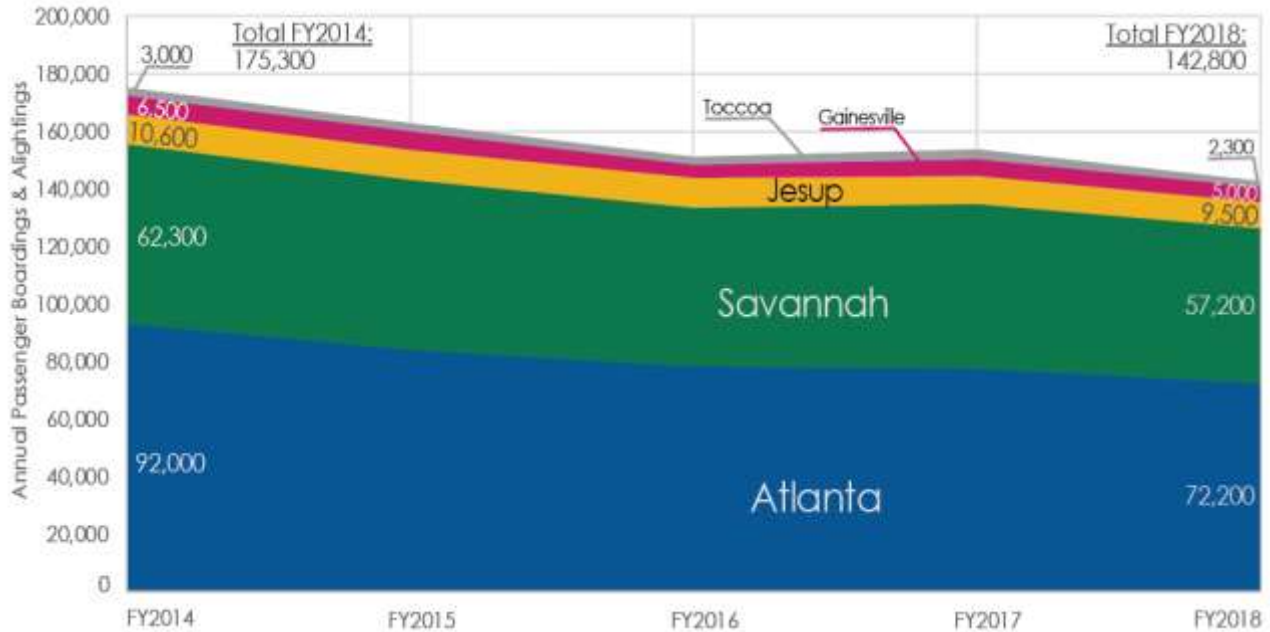
Source: September Monthly Performance Reports, FY2014-FY2017.

Station Ridership

The previous data described ridership based on the full route of Amtrak services that pass through Georgia, whereas these ridership numbers describe the number of riders who either boarded or alighted at one of the five Georgia stations. This allows for a more explicit examination of the impact of passenger rail in the state. **Figure 1-24** shows the ridership for each station over the period from FY2014 to FY2018. Overall, total ridership in Georgia decreased 18.5 percent over the five-year period. The Atlanta station (served by the *Crescent*) not only has the highest number of riders, but it also is used by more than 50% of all riders who board or alight in the state. Savannah is the second highest ridership station and is served by all three coastal Georgia routes: *Palmetto*, *Silver Star*, and *Silver Meteor*.



Figure 1-24: Amtrak Ridership for Each Station in Georgia, FY2014 to FY2018



Source: RPA Fact Sheets for Atlanta, Gainesville, Toccoa, Savannah, and Jesup Stations.

Another method to examine station level ridership data is to note what the highest ridership origin-destination pairs are that include the five Georgia stations. Origin-destination city pairs mean that the passenger boarded at one of the two cities (the origin) and alighted in the other (the destination), and it serves as a measure of the passenger flow between the two cities. This data for the five stations in Georgia can be seen in **Table 1-20**. Atlanta's top city pairs are NY, NY which is northern Crescent terminus, Washington, DC, and New Orleans which is the southern terminus of the *Crescent*. Both Gainesville and Toccoa, the other stations on the Crescent line, have Atlanta in their top origin-destination pairs which shows that some passengers are using Amtrak service for intrastate travel in Georgia. **Table 1-21** shows the top origin-destination station pairs based not on stations, but for each of the routes that serve Georgia, based on ridership. Atlanta is included in four of the top ten *Crescent* origin-destination station pairs, paired with New York Penn station, Washington DC, New Orleans, and Greensboro, highlighted in green. No other Georgia stations are in the top ten ridership origin-destination pairs on their respective routes, further highlighting the importance of the *Crescent* to Georgia.



Table 1-20: 2018 Top Georgia Origin-Destination Station Pairs

Rank	Atlanta	Gainesville	Toccoa	Savannah	Jesup
1	New York, NY	Washington, DC	Atlanta, GA	Washington, DC	Orlando, FL
2	Washington, DC	New York, NY	Washington, DC	North Charleston, SC	New York, NY
3	New Orleans, LA	Atlanta, GA	New York NY	New York, NY	Washington, DC
4	Greensboro, NC	New Orleans, LA	New Orleans, LA	Orlando, FL	Miami, FL
5	Philadelphia, PA	Charlottesville, VA	Charlottesville, VA	Philadelphia, PA	Philadelphia, PA
6	Newark, NJ	Greensboro, NC	Alexandria, VA	Richmond, VA	Newark, NJ
7	Charlottesville, VA	Philadelphia, PA	Philadelphia, PA	Miami, FL	West Palm Beach, FL
8	Charlotte, NC	Lynchburg, VA	Birmingham, AL	Jacksonville, FL	Fayetteville, NC
9	Birmingham, AL	Manassas, VA	Greensboro, NC	Fayetteville, NC	Richmond, VA
10	Meridian, MS	Alexandria, VA	Baltimore, MD	Winter Park, FL	Fort Lauderdale, FL

Source: RPA Fact Sheets for Atlanta, Gainesville, Toccoa, Savannah, and Jesup Stations.

Table 1-21: 2018 Top Origin-Destination Station Pairs by Route

Rank	<i>Crescent</i>	<i>Palmetto</i>	<i>Silver Meteor</i>	<i>Silver Star</i>
1	Birmingham, AL - New Orleans, LA	New York, NY - Washington DC	New York, NY - Orlando, FL	Tampa, FL - West Palm Beach, FL
2	Atlanta, GA - New York, NY	Philadelphia, PA - Washington, DC	Orlando, FL - West Palm Beach, FL	Orlando, FL - Tampa, FL
3	Atlanta, GA - Washington, DC	New York, NY - Philadelphia, PA	Orlando, FL - Washington, DC	Miami, FL - Tampa, FL
4	Charlottesville, VA - New York, NY	Baltimore, MD - Washington, DC	Miami, FL - Washington, DC	New York, NY - Richmond, VA
5	Atlanta, GA - New Orleans, LA	Richmond, VA - Washington, DC	New York, NY - Richmond, VA	New York, NY - Washington, DC
6	New York, NY - Washington, DC	Washington, DC - Wilmington, DE	Miami, FL - Orlando, FL	Raleigh, NC - Washington, DC
7	Charlottesville, VA - Washington, DC	BWI Airport, MD - Washington, DC	New York, NY - Washington, DC	Fort Lauderdale, FL - Tampa, FL
8	New Orleans, LA - New York, NY	Baltimore, MD - New York, NY	New York, NY - North Charleston, SC	Deerfield Beach, FL - Tampa FL
9	Atlanta, GA - Greensboro, NC	Newark, NJ - Washington, DC	Jacksonville, FL - New York, NY	Richmond, VA - Washington, DC
10	Greensboro, NC - Washington DC	Metropark, NJ - Washington, DC	Fayetteville, NC - New York, NY	New York, NY - Raleigh, NC

Source: RPA Fact Sheets for Crescent, Palmetto, Silver Meteor, and Silver Star Services.

Intercity Passenger Rail Performance Measures

As noted previously, Section 207 of PRIIA sets forth route-specific performance measures and related targets to help determine where improvements are needed. The current status of these



performance metrics for the routes that serve Georgia are presented in the following sections; however, Georgia specific data are not available since metrics are exclusively route based.

Financial Performance

Table 1-22 shows the percent of fully allocated operating cost covered by passenger-related revenue for the four routes in Georgia for the past eight quarters. The PRIIA standard requires an improvement over the prior eight quarters. With one-percent increases from the prior period, the Crescent, Palmetto, and Silver Star each achieved the performance standard, while the Silver Meteor did not. Additionally, the Palmetto revenues covered 87 percent of its operating costs during this time-period, out-performing the other three routes in the state. The Palmetto has lower operating cost due to the combination of an overall shorter route, no sleeper car service, and the local stops in the North-East Corridor as previously mentioned.

Table 1-22: Percent of Fully Allocated Operating Cost Covered by Passenger-Related Revenue, Rolling Average for Past Eight Quarters

Route	Prior Period (Oct 2015 – Sept 2017)	Current Period (Oct 2016 – Sept 2018)	Change
Crescent	43%	44%	+1%
Palmetto	87%	88%	+1%
Silver Meteor	53%	51%	-3%
Silver Star	49%	50%	+1%

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

Passenger-Miles per Train-Mile

Passenger-miles per train-mile is a measure of train utilization calculated by dividing passenger-miles by train-miles¹⁵. This metric measures the average number of passengers that are on a train route. The passenger-miles per train-mile for the four routes in Georgia are shown in **Table 1-23**. The PRIIA standard for this metric is an increase from the prior period. This standard was not met by any of the routes.

Table 1-23: Passenger-Miles per Train-Mile, Rolling Average for Past Eight Quarters

Route	Prior Period (Oct 2015 – Sept 2017)	Current Period (Oct 2016 – Sept 2018)	Change
Crescent	139	136	-3
Palmetto	178	172	-6
Silver Meteor	211	201	-10
Silver Star	169	163	-6

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

On-Time Performance

PRIIA defines three tests for on-time performance (OTP): Change in Effective Speed, Endpoint OTP, and All-Stations OTP. The results of the three tests are discussed below.

¹⁵ A train-mile is defined as moving a train one mile.



Test No. 1: Change in Effective Speed

This test looks at whether the effective train speed of a route has changed from FY2008, the baseline year set in PRIIA. Effective speed is defined as a train's mileage divided by the sum of (a) the scheduled end-to-end running time plus (b) the average endpoint terminal lateness. The standard requires that the effective speed be equal to or better than the baseline. The changes in effective speed for the four routes in Georgia are shown in **Table 1-24**. As shown, none of the routes achieved the standard, but the *Silver Meteor* was close with -0.1 miles per hour.

Table 1-24: Change in Effective Speed, FY2018 Q1-Q4

Route	Change in Effective Speed from FY2008 Baseline
<i>Crescent</i>	-2.6
<i>Palmetto</i>	-0.4
<i>Silver Meteor</i>	-0.1
<i>Silver Star</i>	-0.4

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

Test No. 2: Endpoint OTP

Amtrak defines OTP as the total number of trains arriving on-time at a station divided by the total number of trains on that route. A consistently-high OTP makes the rail service more attractive to riders. Endpoint OTP specifically looks at the OTP at the termini of a route. "On-time" for endpoints represents arrival with a 10-30 minute tolerance, depending on the length of the route. The standard for long-distance routes (which includes all four routes in Georgia) is an 85 percent endpoint OTP. **Table 1-25** shows the endpoint OTPs for Georgia routes. Each of the four routes falls short of the standard.

Table 1-25: Endpoint OTP, FY2018 Q4

Route	Endpoints	Percent On-time Performance at Endpoint Stations
<i>Crescent</i>	New York City and New Orleans	13.5%
<i>Palmetto</i>	New York City and Savannah	49.5%
<i>Silver Meteor</i>	New York City and Miami	38.9%
<i>Silver Star</i>	New York City and Miami	40.8%

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

Test No. 3: All-Stations OTP

All-stations OTP considers the on-time performance for every station on a route, and "on-time" has a tolerance of 15 minutes. The standard for long-distance routes is 85 percent, and, as shown in **Table 1-26**, this is not met by any route in Georgia.


Table 1-26: All-Stations OTP, FY2018 Q4

Route	Percent On-time Performance at all Stations
<i>Crescent</i>	28.2%
<i>Palmetto</i>	54.6%
<i>Silver Meteor</i>	38.6%
<i>Silver Star</i>	35.5%

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

Train Delays

Amtrak categorizes train delays as either delays caused by the Amtrak service or delays caused by the host railroad. Delay during Q4 of FY2018 that Amtrak is responsible for on the routes that pass through Georgia are shown in **Table 1-27**. **Table 1-29** shows the delay caused by the host railroad, which can be seen to be substantially higher than those attributed to Amtrak. The delays are measured in minutes of delay per 10,000 train miles. The code of the delays and the descriptions are set forth by the FRA and shown in **Table 1-30**, but it is important to note that it is not the passengers causing delay, but the delay Amtrak incurs during the provision of service for passengers. Additionally, it is important to note that host railroads are by far the biggest contributor to passenger train delays, not the passenger operations themselves.

The PRIIA standard for Amtrak-responsible delays is less than or equal to 325 minutes per 10,000 train miles. For the time period, only the *Palmetto* achieved this standard. For host-responsible delays, the standard is equal to or below 900 minutes. Only the CSX Corporation and Norfolk Southern portions of the *Silver Meteor* and *Silver Star*, respectively, achieved this standard.

Table 1-27: Total Delay and Top Two Largest Delay Codes for Amtrak-Responsible Delays, in Minutes of Delay per 10,000 Train Miles, FY2018 Q4

Route	Total Delay (Minutes)	Largest Two Delay Codes			
		#1	Delay (Minutes)	#2	Delay (Minutes)
<i>Crescent</i>	367	Passenger Related	142	ADA Passenger Related	79
<i>Palmetto</i>	257	ADA Passenger Related	69	Crew & System, Passenger Related	56.5
<i>Silver Meteor</i>	487	Passenger Related	152	ADA Passenger Related	142
<i>Silver Star</i>	444	Crew & System	144	ADA Passenger Related	120

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Reports on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.



Table 1-28: Delay Code Explanations

Code	Description
Passenger Related	All delays related to passengers, checked-baggage, large groups, etc.
ADA Passenger Related	All delays related to disabled passengers, wheel chair lifts, guide dogs, etc.
Crew & System	Delays related to crews including lateness, lone-engineer delays
Freight Train Interference	Delays from freight trains
Passenger Train Interfere	Delays for meeting or following other passenger trains
Commuter Train Interfere	Delays for meeting or following commuter trains
Slow Order Delays	Temporary slow orders, except heat or cold orders
Signal Delays	Signal failure or other signal delays, wayside defect-detector false-alarms, defective road crossing protection, efficiency tests, drawbridge stuck open

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

Table 1-29: Total Delay and Top Two Largest Delay Codes for Host-Responsible Delays, in Minutes of Delay per 10,000 Train Miles, FY2018 Q4

Route	Host	Route Miles	Total Delay (Minutes)	Largest Two Delay Codes			
				#1	Delay (Minutes)	#2	Delay (Minutes)
Crescent	Norfolk Southern	1,141	1,936	Freight Train Interference	1,262	Slow Order Delays	274
Palmetto	CSX Corporation	659	1,175	Freight Train Interference	485	Passenger Train Interference	246
Silver Meteor	CSX Corporation	1,152	834	Freight Train Interference	358	Passenger Train Interference	170
	FDOT	68	1,178	Commuter Train Interference	506	Slow Order Delays	391
	Central Florida Rail Corridor	61	2,537	Slow Order Delays	660	Signal Delays	615
Silver Star	CSX Corporation	1,209	1,081	Freight Train Interference	303	Passenger Train Interference	251
	FDOT	68	1,434	Commuter Train Interference	615	Slow Order Delays	589
	Central Florida Rail Corridor	61	1,658	Slow Order Delays	700	Signal Delays	477
	Norfolk Southern	28	766	Freight Train Interference	258	Passenger Train Interference	254

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Reports on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.



Table 1-30: Delay Code Explanations

Code	Description
Passenger Related	All delays related to passengers, checked-baggage, large groups, etc.
ADA Passenger Related	All delays related to disabled passengers, wheel chair lifts, guide dogs, etc.
Crew & System	Delays related to crews including lateness, lone-engineer delays
Freight Train Interference	Delays from freight trains
Passenger Train Interfere	Delays for meeting or following other passenger trains
Commuter Train Interfere	Delays for meeting or following commuter trains
Slow Order Delays	Temporary slow orders, except heat or cold orders
Signal Delays	Signal failure or other signal delays, wayside defect-detector false-alarms, defective road crossing protection, efficiency tests, drawbridge stuck open

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

Customer Satisfaction Indicator (eCSI)

Amtrak uses a Customer Satisfaction Indicator (eCSI) to measure the satisfaction of passengers, using an 11-point scale, on particular aspects of their trip. For example, an eCSI score of 80 means 80 percent of respondents rated the aspect of their trip in the top three of the 11 steps of the scale. The following categories are included on the survey:

- **Overall Service** is the measure for the respondents rating their overall trip experience.
- **Amtrak Personnel** is the measure for respondents rating Amtrak reservations personnel, station personnel, train crews, and on-board service crew.
- **Information Given** is the measure for the respondents rating all information they received pertaining to their trip.
- **On-Board Comfort** is the measure for the respondents rating seat or sleeping compartment comfort, air temperature, and ride quality.
- **On-Board Cleanliness** is the measure for the respondents rating the cleanliness of the train and on-board restrooms.
- **On-Board Food Service** is the measure for the respondents rating the quality of the food and snacks purchased on-board the train.

It is important to note that measures related to experience in the station are not included in the survey. Additionally, while somewhat covered by the “on-board comfort” indicator, measures specifically related to experience in sleeping cars are not covered in their own category. **Table 1-31** shows the eCSI scores for each of the four routes in Georgia for the last quarter of FY2018, compared to the standard set by PRIIA. Across all routes, the standard for each category was not met.



Table 1-31: Customer Satisfaction Indicator Scores, FY2018 Q4

Service Metric	Standard	Routes			
		<i>Crescent</i>	<i>Palmetto</i>	<i>Silver Meteor</i>	<i>Silver Star</i>
Overall Service	82	58	68	71	68
Amtrak Personnel	80	69	75	75	76
Information Given	80	70	79	74	75
On-Board Comfort	80	65	72	70	72
On-Board Cleanliness	80	68	73	73	72
On-Board Food Service	80	65	74	70	71

Note: Red indicates the PRIIA standard was not met.

Source: Quarterly Reports on the Performance and Service Quality of Intercity Passenger Train Operations, FY2018 Q4.

Overall, the four long distance Amtrak routes generally do not meet the PRIIA standards. However, as seen in the previous sections, over 140,000 passengers used Amtrak in Georgia during FY2018, and over 1.3 million passengers rode on the four routes that serve Georgia. Supporting and implementing improvements to the existing Amtrak service to meet these standards would help retain the current riders and could reverse the overall downward trends in Amtrak ridership both in the state and regionally.

1.1.7. Funding Sources and Financing Mechanisms

The state maintains, improves, and expands state-owned rail infrastructure in Georgia, and assists with safety improvements at highway-rail crossings using state and federal funding sources. However, there is no dedicated funding source for rail projects in Georgia.

Limitations on Rail Funding in Georgia

The Georgia Constitution restricts the state's ability to use motor fuel tax revenues – from gasoline, diesel tax and alternative fuels— for purposes other than roads and bridges, which precludes their use for rail capital improvements (Ga. Const. art. III, §9¶VI(b)). Highway funds are, however, can apply to rail-highway related projects.

In addition, the Georgia Constitution includes a “gratuities clause” that prohibits state entities from granting any donation or gratuity (gift), or to forgive any debt or obligation to the public (Ga. Const. art. III, §6¶VI(a)). The state must receive substantial benefit for the grant or use of state assets. The gratuities clause effectively bars the state from providing grants or loans for projects on private rail lines or funding rail access projects for shippers. Any state funding for rail projects must be on state-owned property.

State and Local Funding for GDOT State-Owned Rail Lines

GDOT leases its 465 route miles of rail lines to private freight operators. Per the terms of GDOT's leases, the freight operators are responsible for performing routine maintenance on GDOT-owned rail lines, generally maintaining these lines to an agreed-to level of service for each line. However, GDOT is responsible for funding capital maintenance, such as upgrades or line improvements, and emergency repairs. Emergency repairs are those required because of unexpected failures of rail

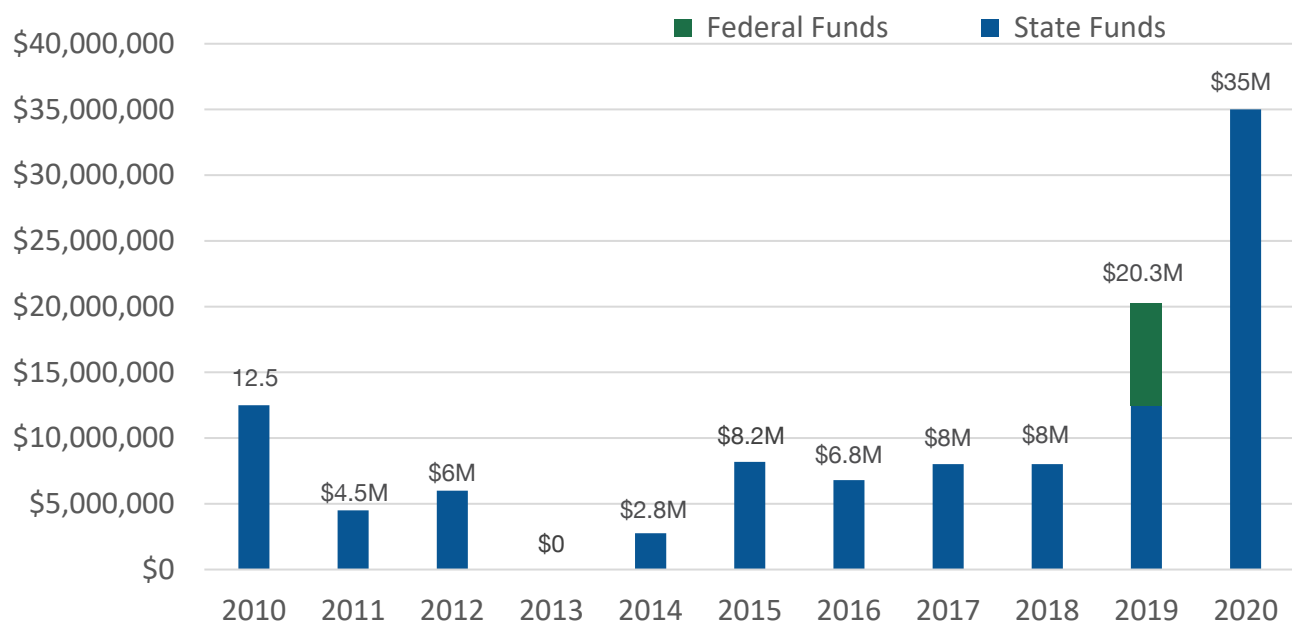


infrastructure or due to damage caused by natural phenomena, such as flooding. GDOT uses the lease payments from freight operators to create a fund to pay for emergency repairs.

GDOT rail projects support economic development and preserve the state rail network. GDOT's capital maintenance projects provide improvements that benefit the rail lines over multiple years. Most capital projects are necessary to keep rail lines in a state of good repair, such as railroad tie replacement, line resurfacing, and bridge repair and rehabilitation. Each year, railroad operators of GDOT-owned lines prepare a list of capital needs. Because the operator railroads submit more projects than GDOT can fund, GDOT evaluates projects on their likely impacts, including their potential impacts on economic development. GDOT then makes a request to the state legislature for funding of a package of short line rail projects. The legislative appropriations from the general fund represent a small portion of the GDOT's annual budget and provide funding for nonhighway programs. Historically, a significant share of nonhighway programs have consisted primarily of matching funds for federal transit programs (urban and rural programs) and some aviation programs, with a smaller portion supporting maintenance of state-owned rail lines. GDOT estimates its annual average funding need for short lines is \$45 million and annual appropriations over the last ten years have ranged from \$0 to \$35 million, often landing around the \$8 million mark.

Figure 1-25 presents the available funding for 2015 through 2018. Since 2014, the state has obligated \$84.4 million for track upgrade and maintenance on state-owned rail lines. In FY 2020, GDOT has planned approximately \$35 million in track upgrade projects which is significantly larger than the average \$7.9 in annual funding for the FY 2014 to FY 2018 period.

Figure 1-25: GDOT Short Line Funding



Source: GDOT



Transportation Funding Act of 2015 and Potential Rail Project Funding

In July 2015, Georgia's governor signed into law the Transportation Funding Act of 2015 (TFA) to generate an estimated \$830 million to \$1 billion in annual revenues to address system wide transportation needs. The TFA replaces the 4 percent sales tax and 7.5 cents excise tax on fuel with a single 26 cents per gallon fuel excise tax (29 cents for diesel) adjusted annually based on the Consumer Price Index (CPI) and fuel economy standards. (Indexing started in July 2016; after July 2018 indexing has been solely based on the average fuel economy of all new vehicles registered in the state the previous year). The TFA also added a hotel/motel tax and made revenues available for a wide variety of nonhighway transportation purposes.

The TFA allows the use of the following revenue sources for transportation projects of any mode, not just highway:

- Special fees on heavy vehicles: The revenues include annual impact fees for heavy vehicles (O.C.G.A. §40-2-151.1)
- Hotel/motel tax: The revenues include a \$5.00 per night fee enacted in 2015 (O.C.G.A. §48-13-50.3)

These revenue sources are considered incremental to the existing general fund appropriations. If they are to be used for passenger or freight rail, they must be appropriated for such purposes by the Georgia legislature.

Georgia Railroad Track Maintenance Tax Credit

Although Georgia cannot fund or finance projects on private rail lines, it can provide tax incentives for rail investment. The Georgia legislature approved an act permitting short line railroads to apply for a tax credit for track maintenance expenditures up to \$3,500 beginning January 1, 2019 and ending December 31, 2023.

Georgia Ports Authority

Georgia Ports Authority (GPA) invests in freight rail projects at its port facilities. The biggest recent investment is the Mason Mega Rail project, which will double the Port Savannah's capacity to transfer containers to/from rail and will enable NS and CSX to build large intermodal trains at the port. The project was funded in part by a \$44 million federal grant from the Fostering Advancement in Shipping and Transportation for the Long-Term Achievement of National Efficiencies (FASTLANE) program, and additional funding came from a \$92 million investment by GPA.

Georgia Department of Community Affairs

The Georgia Department of Community Affairs' OneGeorgia Authority is tasked with supporting the economic vitality of rural Georgia through grants and development incentives. OneGeorgia's Equity Fund finances infrastructure investments that foster economic development, including rail improvements. Awards range from \$200,000 to \$500,000, depending on the number of counties sponsoring a project.

Alternative Funding Mechanisms

Developing a funding strategy to maintain and expand existing service and initiate new service, whether commuter, intercity passenger, or freight rail, is a significant challenge. Essential to a



successful funding strategy are sustainable and consistent funding sources for both capital and maintenance needs. These sources can take many forms and may include fuel taxes, sales tax, and other taxes and fees.

The enactment of the TFA provides GDOT the flexibility to use a portion of revenue generated from the hotel/motel tax and heavy vehicle impact fees for transportation purposes that are not road and bridge improvements and may include non-highway transportation, such as transit, aviation, and rail. These revenue sources have the potential to be coupled with other sources to fund projects.

It should be noted that under Georgia Constitution state agencies (but not authorities) are prohibited from entering into any contract that constitutes a state of indebtedness (Ga. Const. art. VII, §4, ¶VIII). However, this does not preclude other Georgia authorities, such as economic development authorities, counties, community improvement districts (CID), commercial improvement districts (CIDs), and other municipal entities to become indebted.

Local Funding for Rail in Georgia

Counties can elect to support rail infrastructure through local investments. Counties can accomplish this goal with a Special Purpose Local Option Sales Tax (SPLOST), which creates a dedicated local sales tax income stream to fund capital improvements, often including transportation infrastructure as well as the more typical parks and buildings. They can establish this taxation mechanism, which requires voter approval through a referendum, and direct a certain percentage of the revenues toward rail improvements that do not violate the gratuities clause.

Regional Commissions in Georgia can also fund rail infrastructure improvements through the Transportation Investment Act of 2010 (TIA), which allows regions in the state to levy a sales tax on themselves for use in transportation-related programs and projects. TIA funds may be used to upgrade at-grade rail crossings.

Federal Funding for Rail

Except for the railroad crossing safety program, federal funding for rail projects is primarily provided through competitive discretionary grant programs. GDOT has been able to leverage these discretionary grant programs to fund more significant improvements than would have been possible with state funds alone. Federal discretionary grant programs require a non-federal match, and competitive grant applications often include non-federal matching funds that pay 50 percent or more of project costs. For GDOT rail projects, timing is an important consideration since funds must be available in the state's funding cycle when a federal Notice of Funding Opportunity (NOFO) is released if GDOT is to commit state funds to a match. Furthermore, Georgia's legislature approves rail projects before relevant federal NOFOs are released. Because federal funding is not assured, the Georgia legislature cannot appropriate a state match for a project that is contingent on federal funding. The solution so far has been to apply for federal discretionary grant funding to augment the scope of projects that GDOT is already completing. If federal funding is received, a larger scope is completed, and if federal funding is not received, a smaller scope is completed using state funds alone.



Railroad Crossing Safety Program

The GDOT Office of Utilities administers Georgia's federal aid Railway-Highway Crossing (Section 130) Program, which is authorized by United States Code Title 23, Section 130. The goal of this fund, commonly referred to as Section 130, is to reduce the crash risk at public rail/highway grade crossings. Funding from this program can be set aside for reducing the number of fatalities and injuries at public highway-railway crossings through the elimination of hazards and the installation of protective devices at crossings.

The State Office of Utilities plans to spend \$11.5 million in Section 130 funds in FY 2020 and 2021. The federal funding share for this program is 90 percent.

Better Utilizing Investments in Leveraging Development

The U.S. Department of Transportation's Better Utilizing Investments in Leveraging Development (BUILD) (formerly Transportation Investment Generating Economic Recovery [TIGER]) program has emerged as an important source of federal funding for rail projects. BUILD is a highly competitive grant program that provides funding for road, rail, transit, bike/pedestrian, and port projects that support economic competitiveness, state of good repair, quality of life, sustainability, and safety. In 2019, \$900 million was made available for BUILD grants. Between the program's start in 2009 to 2017, approximately 21 percent of TIGER funding went to freight rail projects.

In 2018, \$165 million in BUILD funding went to rail projects, ranging in grant size from \$5 million to \$20 million. The current administration has placed a focus on rural infrastructure improvements, leading to 68 percent of BUILD funding going to rural projects.

Fixing America's Surface Transportation Act

The most recent transportation authorization bill, the 2015 Fixing America's Surface Transportation (FAST) Act, included several rail programs.

Consolidated Rail Infrastructure and Safety Improvements Program: The Consolidated Rail Infrastructure Safety & Improvements (CRISI) program, authorized under the FAST Act, is intended to fund projects that improve the safety, efficiency, and/or reliability of intercity passenger and freight rail systems and was funded at \$318 million in FY 2018 and \$255 million in FY 2019. Georgia was awarded over \$9.7 million in CRISI grants for FY 2018, covering both rehabilitation and upgrade projects on Georgia railroads. Of this, GDOT secured \$7.8 million to support five different projects to rehabilitate sections of GDOT owned rail lines.

- **National Highway Freight Program (FAST Act section 1116; 23 USC 167):** Up to 10 percent of a state's apportionment of the National Highway Freight Program (NHFP) can be spent on rail, port, and intermodal projects. This program is otherwise focused on highway projects and is funded at \$1.1 to \$1.5 billion annually for FY 2016 - FY 2020. In FY 2019, Georgia was apportioned \$4.4 million¹⁶ from the NHFP which could be used for freight intermodal and freight rail projects

¹⁶ <https://www.fhwa.dot.gov/fastact/comptables/table9.cfm>



- **Infrastructure for Rebuilding America Grant Program:** Infrastructure for Rebuilding America (INFRA) is a grant program established by the FAST Act to provide funding for Nationally Significant Freight and Highway Projects. INFRA is a competitive grant program like BUILD, but is focused specifically on freight: highway, rail and intermodal projects of regional or national significance. Funding for INFRA (formerly FASTLANE) was authorized under the FAST Act for \$4.5 billion FY 2016–2020, of which \$500 million can be used for non-highway projects. Ninety-percent of INFRA grants are reserved for “large projects” that either have a cost of at least \$100 million or meet another set of criteria. A minimum 40 percent match is required, some of which may be met with other federal funds (up to a maximum of 80 percent federal funds). As with BUILD, INFRA is oversubscribed, with \$1.5 billion awarded to 26 projects in 2018.¹⁷ USDOT has announced \$856 million in proposed INFRA grants for FY 2019, with 10 and 25 percent of funds reserved for small and rural projects respectively.
- **Other FAST ACT Competitive Grant Programs –** The FAST Act authorized \$2.2 billion over five years (FY 2016-2020) for several new FRA competitive grant programs. In addition, \$204 million in FY 2017 and \$46 million in FY 2018 was made available for projects to deploy positive train control (PTC) technology. The Federal-State Partnership for State of Good Repair Grant Program is intended to repair, replace, or rehabilitate rail assets to improve intercity passenger rail and is funded at \$272 million for FY 2018 and \$396 million for FY 2019.

Magnetic Levitation Deployment Grants Program

Using funds from SAFETEA-LU in 2008 as well as appropriated 2019 funds, the Magnetic Levitation (Maglev) Deployment Grants Program is to provide funding for preconstruction planning activities and capital costs of viable, existing Maglev projects. USDOT has announced \$24 million in available funds, with the Atlanta-Chattanooga Maglev project being one of the few projects eligible for all the funds.

Economic Development Administration Grants

The U.S. Economic Development Administration (EDA) grant and loan assistance programs to support local organizations with economic development, focusing on economically distressed communities.¹⁸ Two of these EDA grant programs provide funding for rail-related technical assistance, planning, and infrastructure. In 2018, Macon/Bibb County, Georgia was awarded \$1.9 million to fund infrastructure improvements, including new rail spur, supporting a tissue product manufacturing company in Macon-Bibb’s Sofkee Industrial Park.

Federal Highway Administration’s Congestion Mitigation and Air Quality

The Congestion Mitigation and Air Quality (CMAQ) program provides a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon

¹⁷ http://transportation.house.gov/uploadedfiles/fastlane_project_awards_7.1.pdf

¹⁸ For additional detail, see the EDA website: <https://www.eda.gov/programs/eda-programs/>



monoxide or particulate matter (nonattainment areas), and for former nonattainment areas that are now in compliance (so-called “maintenance” areas). The federal matching share for these funds is 80 percent. Currently, seven Georgia counties¹⁹ are nonattainment or maintenance areas and are eligible to receive CMAQ funding for projects that reduce vehicular emissions.

The FAST Act apportioned \$2.3 billion–\$2.5 billion per year for this program from FY 2016 through FY 2020. Examples of CMAQ-funded freight rail projects include intermodal facilities, diesel engine retrofits, idle-reduction projects in rail yards, and rail track rehabilitation. In past years CMAQ funded Locomotive Emission Reduction projects in the Atlanta, Macon and Rome non-attainment areas.

Financing Mechanisms for Rail Investments in Georgia

Financing mechanisms provide access to money to pay for a project or service generally before the project generates the necessary revenue to pay for the investments. Unlike funding, financing mechanisms generally create a future financial obligation to the entity providing the financing.

Federal Credit Programs

The US DOT has a variety of debt and credit assistance tools that can be used for passenger and freight rail projects. The two primary tools that can support rail projects include:

- **Railroad Rehabilitation & Improvement Financing:** The FRA’s Railroad Rehabilitation and Improvement Financing (RRIF) program provides direct loans and loan guarantees to finance development of railroad infrastructure. The program is capitalized up to \$35 billion, with \$7 billion reserved for projects benefiting non-Class I railroads. Currently this program is undersubscribed, with only \$5.4 billion in outstanding loans. Of these, \$3.1 billion of loans are to Amtrak, another \$1.5 billion of loans is for transit and other local government agencies, while most of the remaining loans have been to Class II and III railroads. A long approval period (averaging 9 months just to approve the application as complete) and the costs of applying have been identified as reasons for the program’s underutilization. RRIF was re-authorized under the FAST Act in December 2015, which expanded RRIF to expand the scope of eligible projects, shorten review times, and provide more transparency in the process. The Georgia and Florida Railway received an \$8.1 million federal loan under this program in 2009.
- **RRIF Express:** The RRIF Express program is particularly designed for Class II and Class III railroads as the only eligible applicants (including joint ventures that include one Class II and Class III railroad entity as eligible applicant). RRIF Express aims to reduce the time and costs associated with securing loans to modernize aging freight rail infrastructure. Introduced in December 2019, the USDOT plans to solicit applications for loans from January, 2020 to April, 2020. Due to low cost of financing (2.25%) and expedited processing times the program allows borrowers that have a well-documented financial history to finance projects with easily identified revenue streams for loan repayment.

¹⁹

Table of counties and pollutants: https://www3.epa.gov/airquality/greenbook/anayo_ga.html



Eligible project elements include track improvement, bridge rehabilitation, rolling stock acquisition, planning and design, and refinancing nonfederal debt.

- **Transportation Infrastructure Finance and Innovation Act:** The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides credit assistance in the form of direct loans, loan guarantees, and standby lines of credit (rather than grants) to projects of national or regional significance. Under the TIFIA requirements, state governments, state infrastructure banks, special authorities, local governments, CIDs, and even private parties can request minimum assistance of \$50 million for all projects (\$10 million for rural projects). TIFIA assistance is limited to 33 percent of total project costs and requires a dedicated repayment source pledged to secure the debt financing.

Georgia Transportation Infrastructure Bank (GTIB) Loans

Georgia Transportation Infrastructure Bank (GTIB) offers loan programs authorized under O.C.G.A. § 32-10-121 for highway, airport, transit, and rail projects. The GTIB is governed by the board of the State Road and Tollway Authority (SRTA) and can provide low cost loan alternatives for eligible borrowers including cities, CIDs, counties, and other state authorities and agencies. Since inception, GTIB has provided over \$125 million in grants and loans to highly competitive transportation projects that have enhanced mobility and driven economic development in local communities throughout Georgia. Combined with dedicated state and local funding sources, these financing mechanisms offer low cost debt forms to provide capital investment alternatives for passenger and freight rail in Georgia.

1.1.8. Railroad Safety and Security: Trends and Initiatives

The safety of the rail network is a key consideration to a range of stakeholders, including federal agencies such as the FRA and FHWA, GDOT, railroads operating in the state, Georgia Operation Lifesaver, and communities throughout the state. Numerous different organizations work to make the rail network as safe as possible. This chapter provides a discussion of Georgia's safety trends, the location of accidents, and programs/measures that are in place to improve rail safety in Georgia.

Safety Trends

Figure 1-26 displays FRA reported rail accidents and incidents over the past 20 years in Georgia, showing that safety of the rail system has improved. FRA assigns rail-related accidents/incidents to one of three categories:

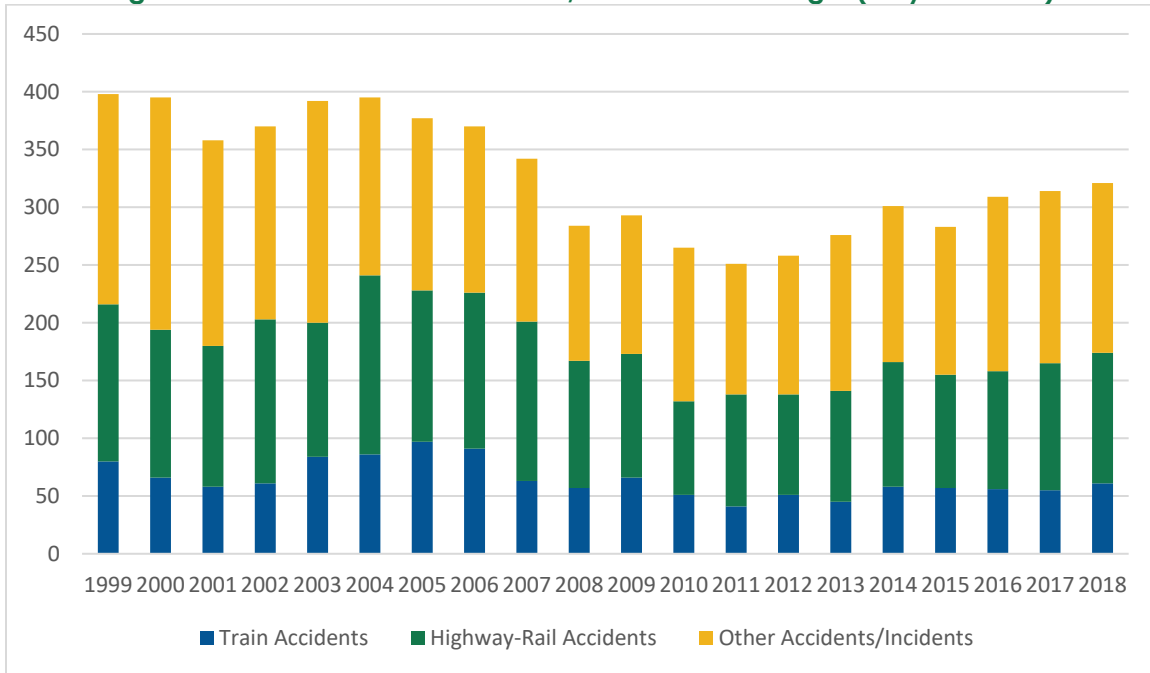
- *Train accidents* are train collisions, derailments of trains or other incidents that cause damage to railroad equipment, track or structures. Accidents in Georgia declined from an average of 74 per year between 1999 and 2008 to an average of 54 per year between 2009 and 2018.
- *Highway-rail* accidents are collisions where trains hit or are struck by cars, bicycles, or pedestrians at highway-rail grade crossings. The frequency of these accidents decreased from 131 per year between 1999 and 2008 to 100 per year between 2009 and 2018.



- *Other accidents/incidents* do not fit into the first two categories. Railroad employees are required to report any work-related injuries or sickness, which are categorized as “other accidents/incidents.” Situations where trespassers, railroad employees, or contractors are struck by trains also fall into the “other” category. The other accidents/incidents declined from an average of 163 occurrences per year between 1999 and 2008 to 133 per year between 2009 and 2018.



Figure 1-26: Rail-Related Accidents / Incidents in Georgia (20-year Trend)

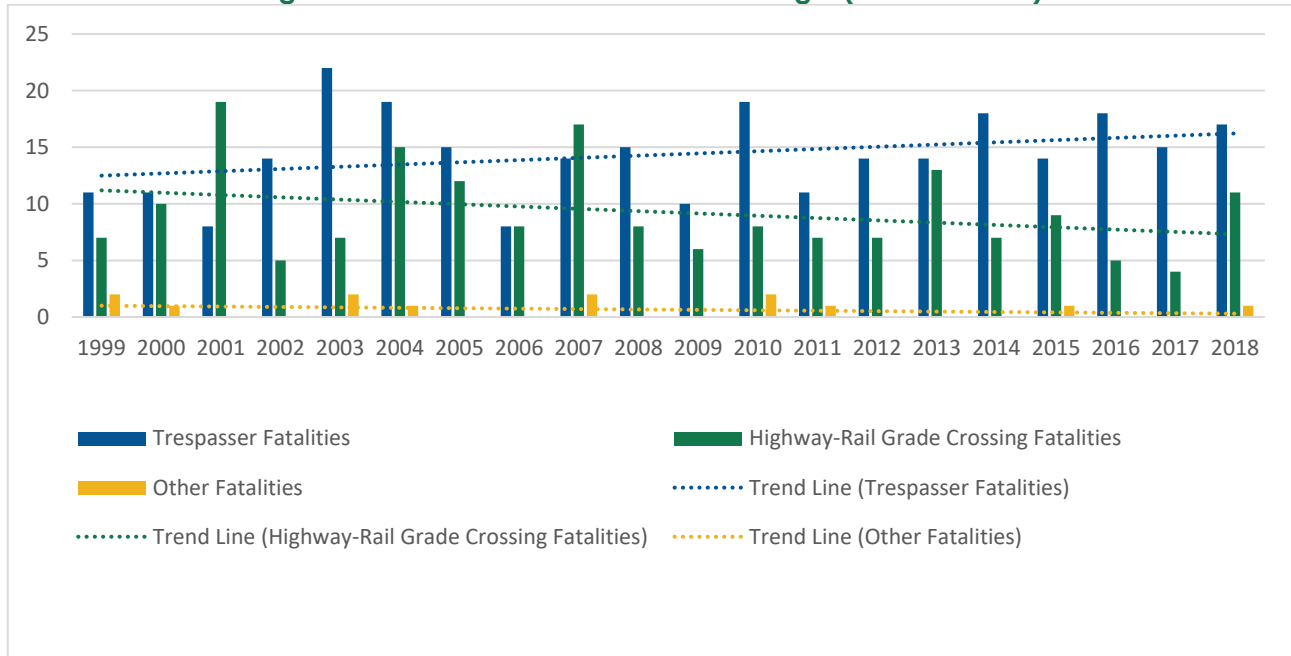


Source: FRA Office of Safety Analysis

Most of Georgia's rail network fatalities (59 percent) were the result of a trespasser on a railroad right-of-way struck by a train or by a collision at a highway-rail grade crossing. Over the last 20 years, as shown in **Figure 1-27**, trespasser fatalities have generally increased, highway-rail grade crossing fatalities have generally decreased, and other fatalities have decreased slightly. Trespasser fatalities have increased because of more train traffic and more train traffic in populated areas, which increases the interaction between the train traffic and trespassers. While the potential for crashes at grade crossings has similarly increased with additional trains and vehicle traffic, crossing safety improvement programs have addressed the risks at the most hazardous crossings.



Figure 1-27: Rail-Related Fatalities in Georgia (20-Year Trend)

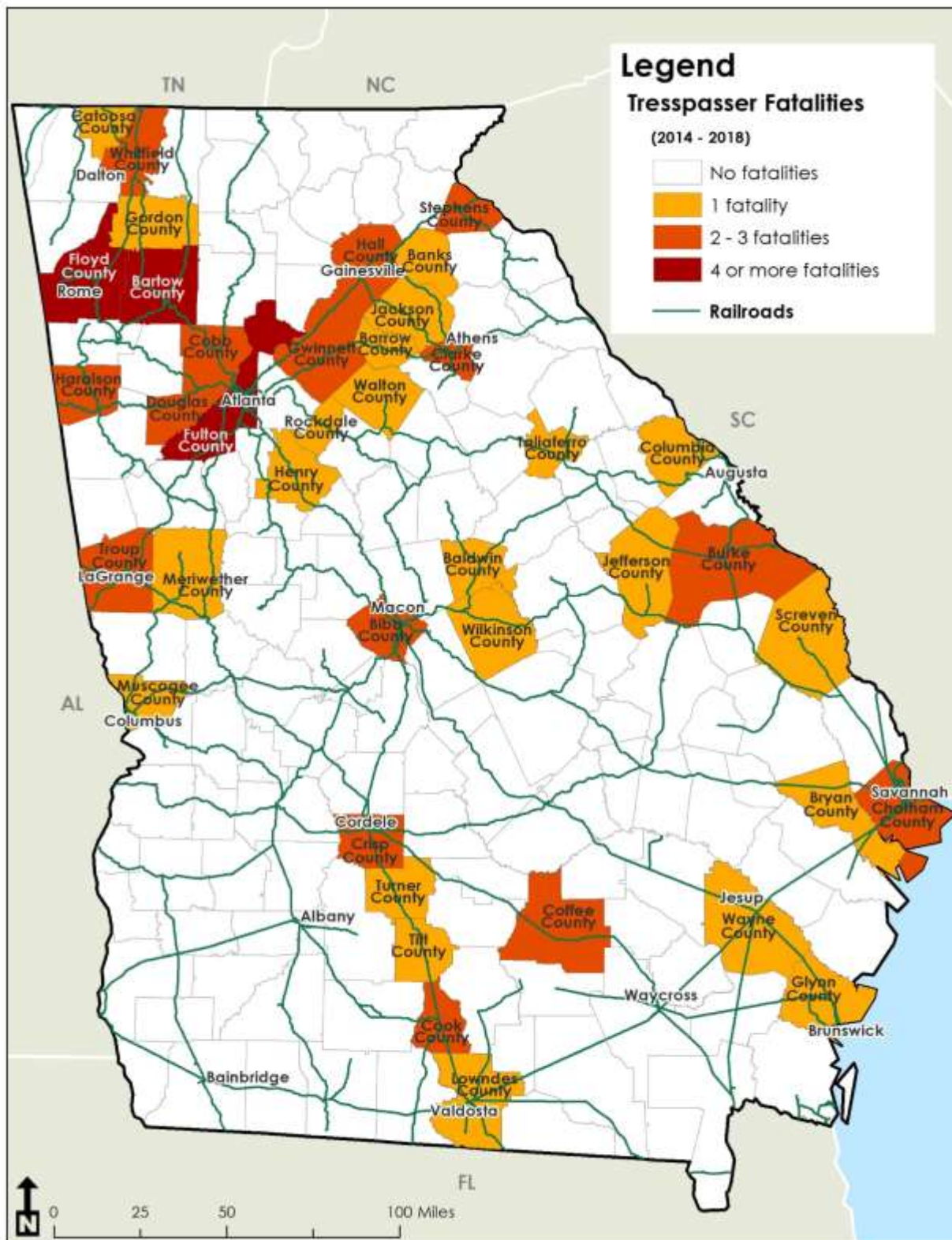


Source: FRA Office of Safety Analysis

Geography of Georgia's Rail Safety Risks

Risks associated with trespassing incidents (fatalities and injuries) tend to be greatest in areas with high population density and busy rail corridors. The counties with the most trespasser fatalities or injuries over between 2014 and 2018 years were Fulton (Atlanta), Cobb (Marietta), DeKalb (East of Atlanta), and Gwinnett (Northeast of Atlanta), which can be seen in **Figure 1-28**. Certain corridors also appear to have high accident rates.

Figure 1-28: Trespasser Fatalities (2014-2018)

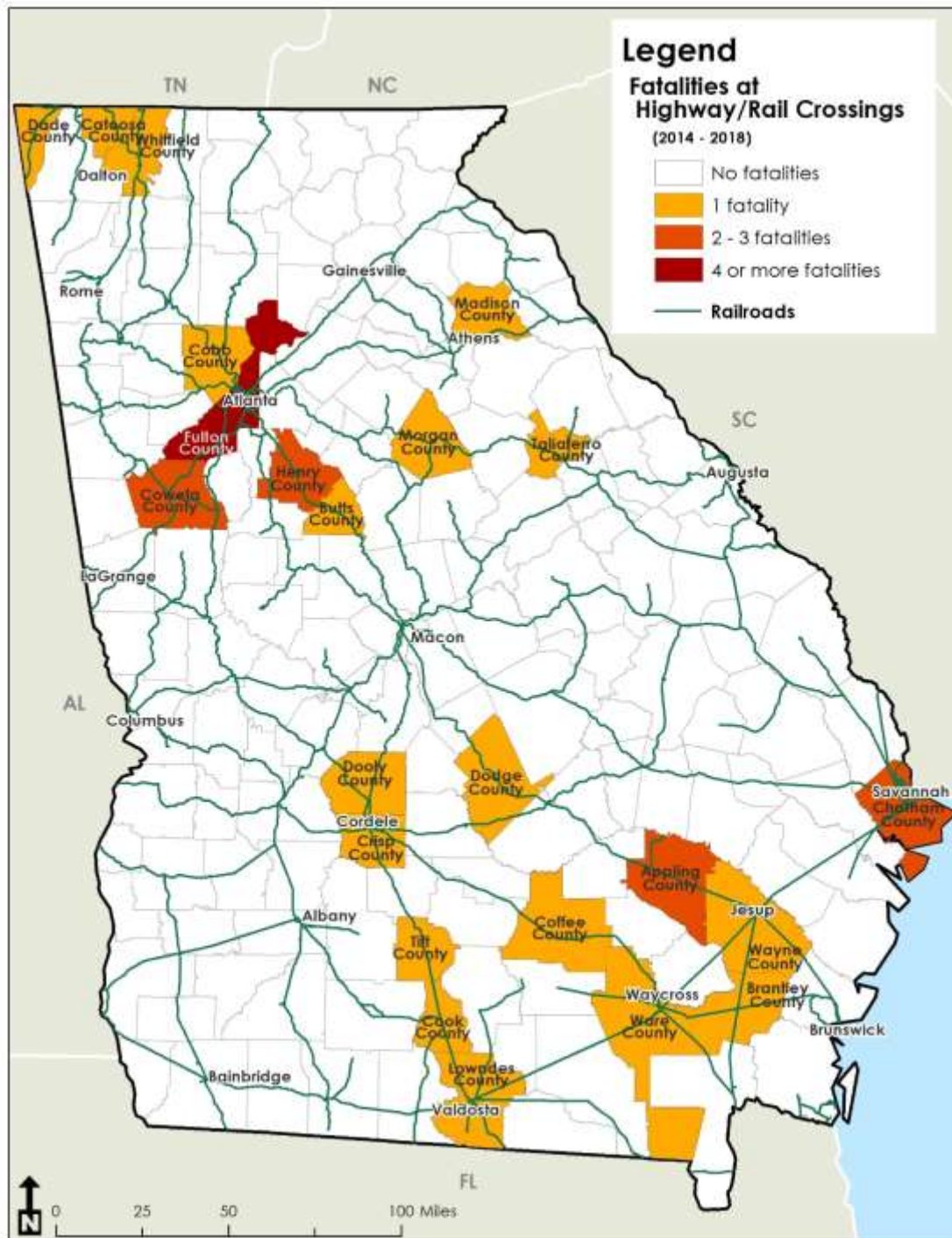


Source: FRA Office of Safety Analysis



Highway-rail grade crossings risks are generally related to the number of crossings, and train and vehicle traffic volumes at those crossings, but other parameters also influence risk. As shown in **Figure 1-29** below, large metropolitan areas tend to have the most highway-rail crossing fatalities because of higher traffic volumes at the crossings themselves.

Figure 1-29: Highway-Rail Crossing Fatalities (2014-2018)



Source: FRA Office of Safety Analysis, WSP Analysis

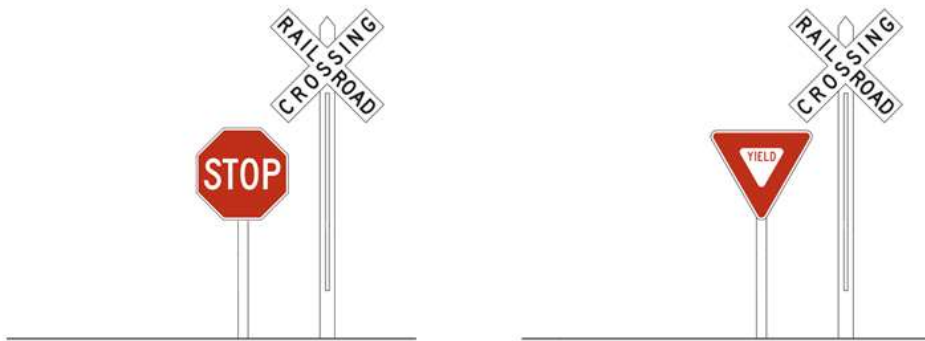
Georgia Highway-Rail Grade Crossings

According to the FRA crossing inventory, there are 5,037 public, vehicular highway-rail grade crossings in Georgia in 2019 as shown in **Table 1-32**. Of these, nearly half are equipped with train-activated warning devices. A graphic of types of railroad crossing warning devices is shown in Figure 1-30. Most of those that are equipped with active warning devices have gates. Generally, crossings with active warning devices are found at higher risk locations, such as those that have high volumes of vehicles and trains.

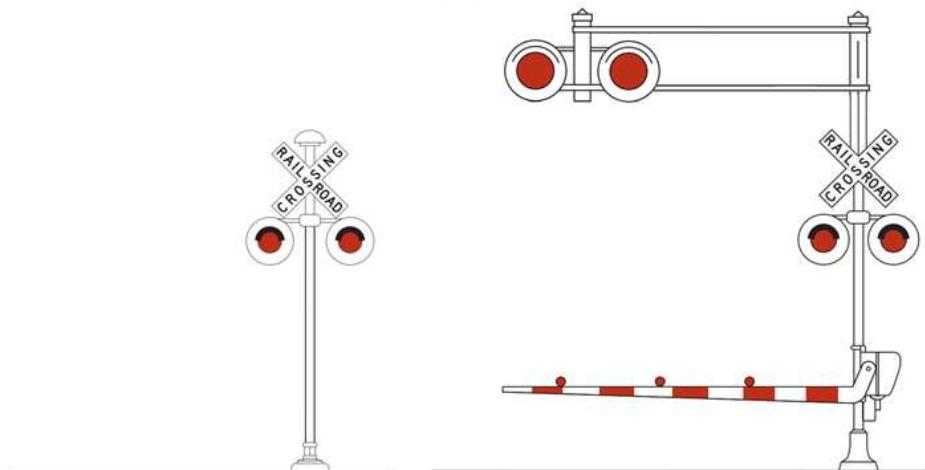
Figure 1-30: Types of Warning Devices

Types of Warning Devices

Passive



Active



Source: FRA



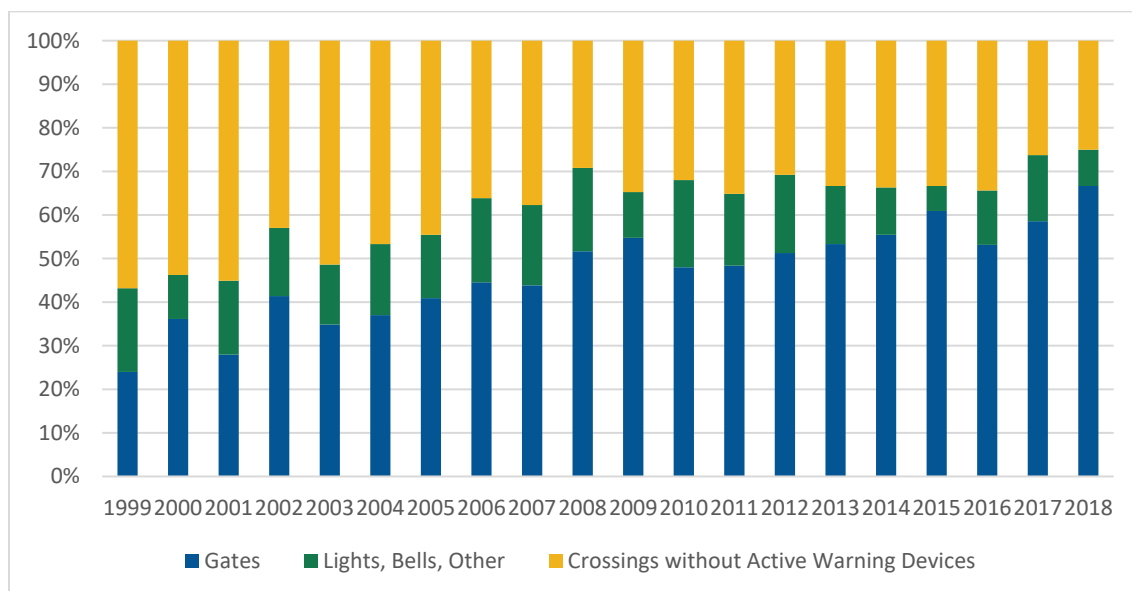
Table 1-32: Georgia Public Grade Highway-Rail Crossings

Primary Warning Device	Count	Percentage
None	72	1%
Passive Warning Devices	2,470	49%
Flashers, bells only	272	5%
Gates and lights	2,223	44%
Total	5,037	100%

Source: FRA Office of Safety Analysis

While the overall frequency of crashes at highway-rail grade crossings has decreased, the characteristics of the crossings where accidents are most likely to occur have changed. Due to the ongoing work in improving crossings, the most dangerous crossings without active warning devices have been upgraded to have lights and gates. This however means that there is less risk reduction per crossing upgrade in the future since the most dangerous crossings have already been corrected. As shown in **Figure 1-31**, most crashes in 1999 occurred at crossings without active warning devices, and only 25 percent of crashes occurred at gated crossings. Over the past 20 years, the situation has nearly reversed, partly due to upgrades at many crossings across the state. In 2018, most crashes (67 percent) occurred at gated crossings, while a lower proportion (25 percent) occur at unprotected crossings. Although adding gates and lights to unprotected crossings will continue to improve safety, it is no longer necessarily true that unprotected crossings are the most dangerous, nor that adding gates and lights to unprotected crossings will necessarily have the highest impact of all potential safety improvements.

Figure 1-31: Percentage of Crashes at Highway-Rail Crossings by Type of Warning Device



Source: FRA Office of Safety Analysis, WSP Analysis

Rail Safety Programs



GDOT and other departments of Georgia's state government work to improve the safety of the rail network. Of the various types of rail-related hazards, GDOT Office of Utilities is responsible for the State's Railroad Safety Program which evaluates and funds safety improvements at highway-rail grade crossings. GDOT and other departments within the state government promote safety through the three "E's": education, enforcement, and engineering.

Education – Most crashes at highway-rail grade crossings are the result of risky driver behavior, thus are preventable. GDOT helps to develop subject matter of shared print and broadcast media to increase awareness of hazards particularly at high risk crossings. GDOT's efforts to improve safety are in tandem with Georgia Operation Lifesaver (GOL) and the Governor's Office of Highway Safety (GOHS). GOL, established in 1974, is a non-profit educational organization for highway-rail crossing safety and rail trespass prevention. GOL is a part of Operation Lifesaver, which operates nationwide. GOL promotes safety through education of both drivers and pedestrians to make safe decisions at crossings and around tracks, promoting enforcement of traffic laws related to crossing signals and trespass, and by encouraging continued engineering research and innovation to improve the safety of railroad crossings. GOL volunteers present to schools, businesses and civic organizations as well as offers specialized programs for school bus drivers, professional drivers, law enforcement and emergency responders.

GOHS administers federal National Highway Traffic Safety Administration formula funds, some of which can be used for crossing-related projects. For example, GOL received several recent grants administered through GOHS, one to establish a mobile exhibition truck, and another to conduct first responder training on how to handle train-motor vehicle crashes.

The private sector has also been experimenting with new ways to create awareness of rail-related hazards such as the NS Safe Tracks, Safe Towns' initiative. NS is partnering with Waze, a GPS navigation app, to increase driver awareness around railroad crossings in the City of South Fulton and some areas of Clayton County. When drivers using Waze come to a complete stop within a designated area, they receive a rail safety message. Between May 4 and July 2, 2019, drivers in Atlanta received 700,000 messages.

Figure 1-32 displays crossings in Georgia where multiple crashes have occurred over the five-year period between 2014 and 2018. As with other rail-related hazards, these tend to cluster in population centers, where the presence of more vehicular traffic and rail traffic create greater potential risks. The crossings with the highest number of incidents are grouped in and around Atlanta, Savannah, and Augusta. Multi-accident crossings are also located along certain corridors, especially in the high-volume corridors in Atlanta.

Rail Safety Programs

GDOT and other departments of Georgia's state government work to improve the safety of the rail network. Of the various types of rail-related hazards, GDOT Office of Utilities is responsible for the State's Railroad Safety Program which evaluates and funds safety improvements at highway-rail grade crossings. GDOT and other departments within the state government promote safety through the three "E's": education, enforcement, and engineering.



Education – Most crashes at highway-rail grade crossings are the result of risky driver behavior, thus are preventable. GDOT helps to develop subject matter of shared print and broadcast media to increase awareness of hazards particularly at high risk crossings.²⁰ GDOT’s efforts to improve safety are in tandem with Georgia Operation Lifesaver (GOL) and the Governor’s Office of Highway Safety (GOHS). GOL, established in 1974, is a non-profit educational organization for highway-rail crossing safety and rail trespass prevention. GOL is a part of Operation Lifesaver, which operates nationwide. GOL promotes safety through education of both drivers and pedestrians to make safe decisions at crossings and around tracks, promoting enforcement of traffic laws related to crossing signals and trespass, and by encouraging continued engineering research and innovation to improve the safety of railroad crossings. GOL volunteers present to schools, businesses and civic organizations as well as offers specialized programs for school bus drivers, professional drivers, law enforcement and emergency responders.

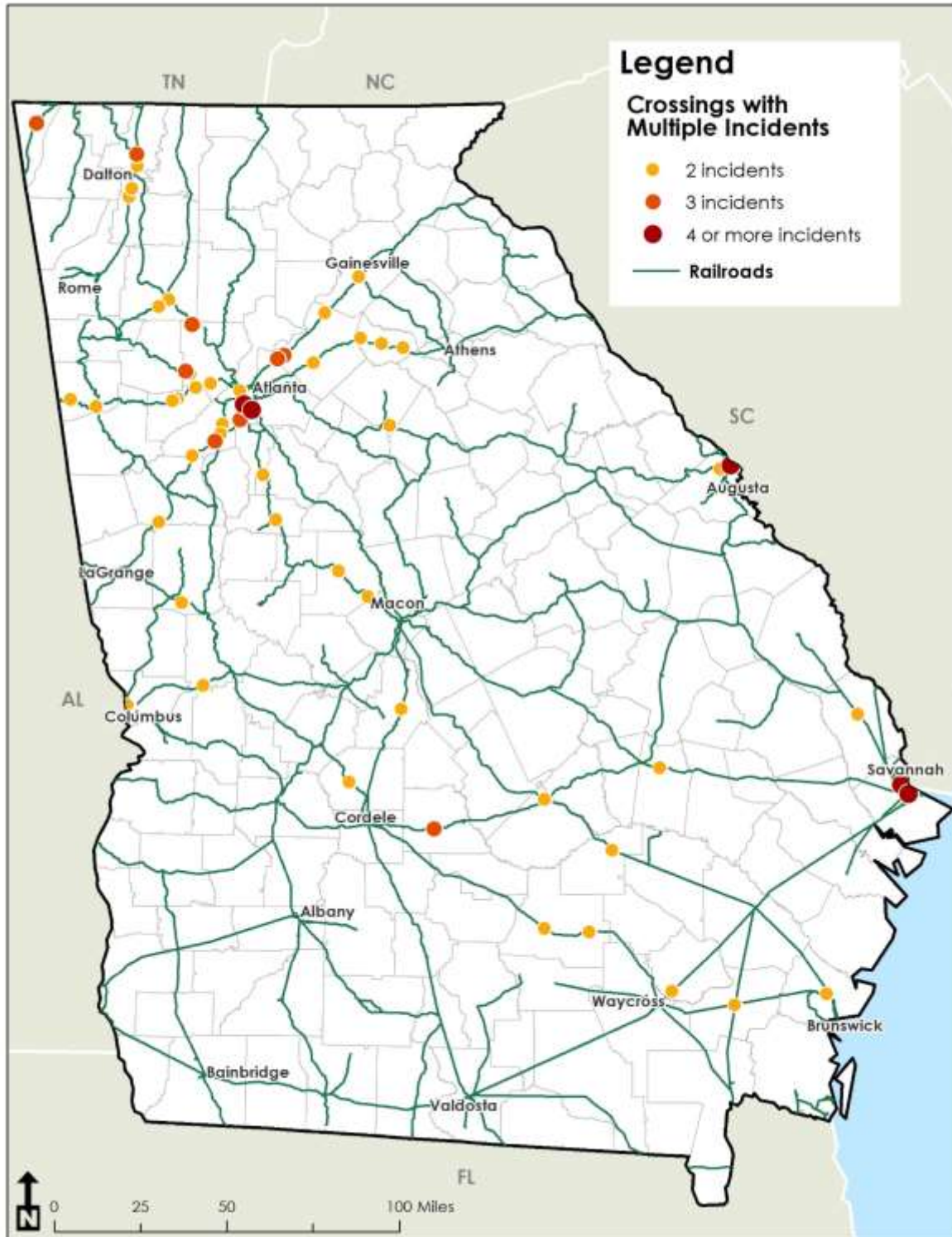
GOHS administers federal National Highway Traffic Safety Administration formula funds, some of which can be used for crossing-related projects. For example, GOL received several recent grants administered through GOHS, one to establish a mobile exhibition truck, and another to conduct first responder training on how to handle train-motor vehicle crashes.

The private sector has also been experimenting with new ways to create awareness of rail-related hazards such as the NS Safe Tracks, Safe Towns’ initiative. NS is partnering with Waze, a GPS navigation app, to increase driver awareness around railroad crossings in the City of South Fulton and some areas of Clayton County. When drivers using Waze come to a complete stop within a designated area, they receive a rail safety message. Between May 4 and July 2, 2019, drivers in Atlanta received 700,000 messages.²¹

Figure 1-32: Multi-Accident Crossings in Georgia by Number of Incidents

²⁰ Georgia Department of Transportation, *State Highway-Rail Grade Crossing Action Plan*, 2011.

²¹ W.R. Miller, Public Safety Director at Norfolk Southern Corporation presentation to AASHTO Rail Council 2019 Annual Meeting, Hartford, CT, September 17, 2019.



Source: FRA Office of Safety Analysis, GDOT Crossing Inventory

Enforcement – Many of the rail-related deaths and injuries that have occurred in Georgia are the result of trespassing on railroad property. The trespassing deaths shown in **Figure 1-29** were the



result of people illegally intruding on railroad rights-of-way. Georgia law requires that drivers must stop at least 15 feet from a crossing when a stop sign is present, a gate or signal indicates a train is approaching, or when a train is clearly visible and within hazardous proximity to the crossing. Motor vehicles carrying passengers for hire, school buses and trucks with flammable liquids must stop before all railroad crossings, look and listen in both directions. Enforcement of existing laws help to deter risky behavior. While the responsibility for enforcing these laws mostly lies with local law enforcement, GDOT and other agencies can help to provide tools for more effective enforcement, such as using data to identify trouble areas.

Engineering – The GDOT Office of Utilities administers the federal Railway-Highway Crossings program, authorized under United States Code Title 23, Section 130, better known as the “Section 130” program. The goal of the fund is to reduce the crash risk at public highway-rail grade crossings. GDOT expects to receive \$11.5 million in 2020 and 2021 through this federal formula grant program. Section 130 projects are funded by 90 percent federal and 10 percent state cost-sharing. GDOT does not require a mandatory local match for Section 130 projects, but GDOT leverages these funds by requiring local support for safety measures such as improvements to signage or pavements, widening surfaces to enable safety devices to be installed. Georgia’s Section 130 program previously focused on upgrading crossings with passive warning devices such as crossbucks, stop signs, or pavement markings to active warning devices such as gates and lights. However, because crossings with passive warning devices are no longer necessarily the most hazardous the emphasis has changed. Now, about half of the program remains focused on adding active warning devices while half is oriented toward other types of hazard elimination. Hazards include motorists bypassing gates, vehicle on tracks from queuing prior to hazard warning, or poor visibility. For hazardous crossings that are already equipped with lights and gates, other safety improvements are possible. Other crossings improvements include channelization to deter motorists from driving around gates, train preemption of warning devices and traffic signals upon approach or improvements to the roadway geometry at the crossing to improve visibility.

Figure 1-33 provides an example of channelization at a crossing using flexible tubing.

Figure 1-33: Example of Channelization



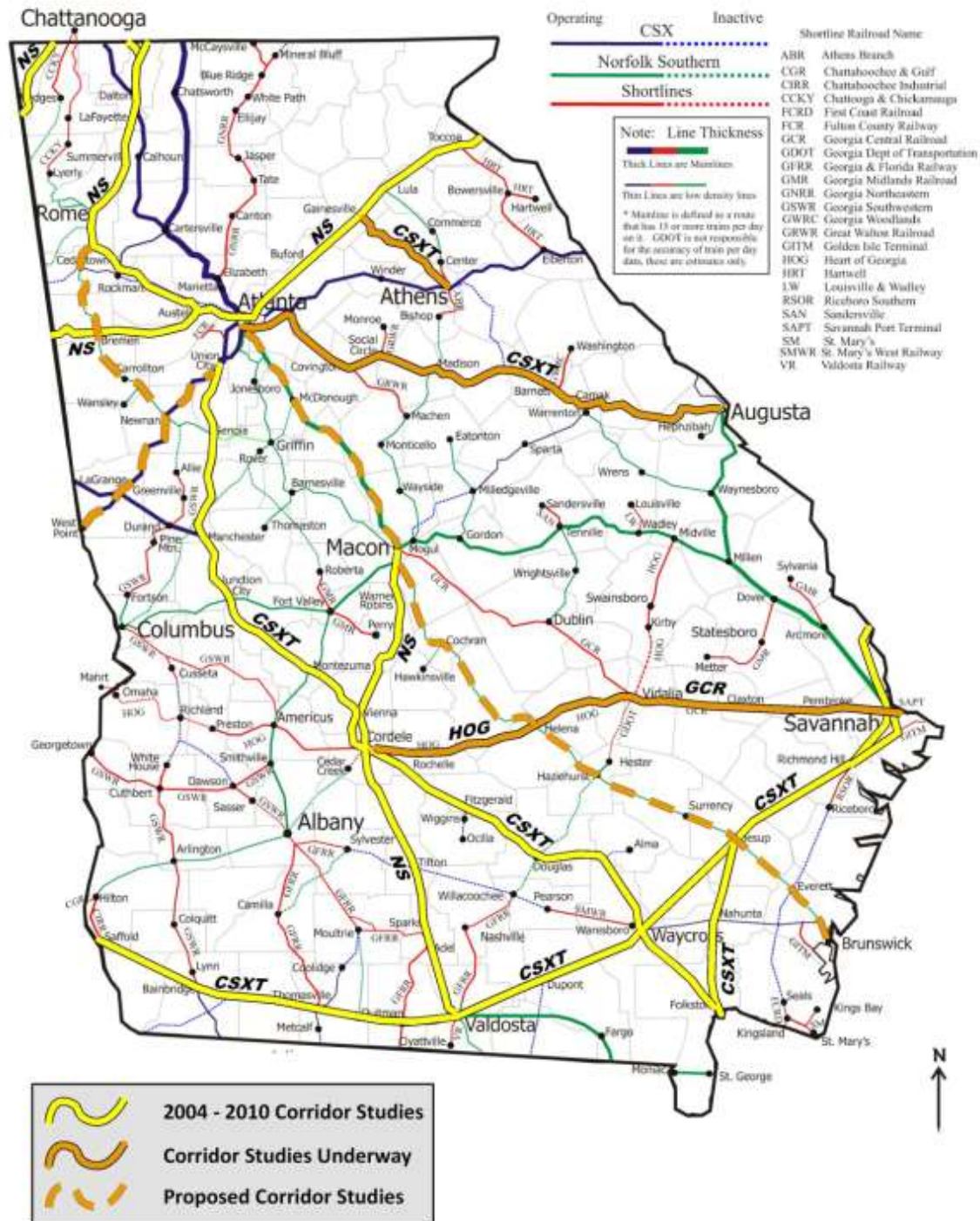
Source: FRA Use of Traffic Channelization Devices at Highway-Rail Grade Crossings

GDOT continually seeks opportunities to close crossings that are underutilized and/or do not significantly improve motorist mobility. Crossing closures are frequently combined with nearby crossing improvements or grade separations as incentives for communities to close crossings. When crossing improvements are made, GDOT reviews nearby crossings for opportunities for elimination. GDOT can provide incentive payments to local communities of \$7,500 to close crossings, which can be combined with additional incentive payments by railroads that own those crossings. Crossing improvements are frequently a component of a package of safety improvements and communities are typically closely involved in the selection process.

GDOT maintains a flexible approach to selecting crossing safety projects. GDOT uses the Peabody-Dimmick Formula (often referred to as the Bureau of Public Roads Formula) to calculate the hazard index used to rank crossings per federal guidance. The formula is important to prioritizing potential improvements, other factors are considered as well, to determine an Adjusted Hazard Index. Based on site-specific information not included in the formula, GDOT's current practice is that the Unadjusted Hazard Index rating produced by the Peabody-Dimmick Formula shall not account for more than 50% of the Adjusted Hazard Index rating. Additional factors are used in the Adjusted Hazard Index including but not limited to school bus routes at crossing and the train-vehicle crash history. GDOT's Design Policy Manual Section 7.6.7 details the crossing evaluation criteria. GDOT performs studies to assess the potential of a series crossing improvements on rail corridors. **Figure 1-34** summarizes the corridors that GDOT has or will be studying for crossing improvements.



Figure 1-34: Corridor Crossing Studies



Source: GDOT



Rail Security

In response to the increased focus on security, new federal and state agencies have been established to oversee and provide assistance to ensure the security of the transportation system. The primary agencies responsible for transportation security in Georgia are the U.S. Department of Homeland Security (DHS) and the Georgia Emergency Management and Homeland Security Agency (GEMA). These agencies, in coordination with federal and state transportation agencies, address transportation security largely through identifying critical infrastructure assets, developing protection strategies for these assets, and developing emergency management plans.

The U.S. Department of Homeland Security addresses rail system security through:

- Training and deploying manpower and assets for high risk areas
- Developing and testing new security technologies
- Performing security assessments of systems across the country
- Providing funding to state and local partners

The Association of American Railroads (AAR), working with DHS and other federal agencies, has organized the Rail Security Task Force. This task force developed a comprehensive risk analysis and security plan for the rail system that includes:

- A database of critical railroad assets
- Assessments of railroad vulnerabilities
- Analysis of the terrorism threat
- Calculation of risks and identification of countermeasures.

The railroad sector maintains communications with the U.S. Department of Defense, DHS, USDOT, the Federal Bureau of Investigation, and state and local law enforcement agencies on all aspects of rail security. GEMA's mission is to provide a comprehensive and aggressive all-hazards approach to homeland security initiatives, mitigation, preparedness, response, recovery and special events to protect life and property and prevent and /or reduce negative impacts of terrorism and natural disasters in Georgia.

Positive Train Control

Positive Train Control (PTC) refers to technologies designed to automatically stop or slow a train before certain accidents can occur. PTC's intent is to prevent collisions between trains and derailments caused by excessive speed, trains operating beyond their limits of authority, incursions by trains on tracks under repair, and by trains moving over switches left in the wrong position. PTC systems are designed to determine the location and speed of trains, warn train operators of potential problems, and act if operators do not respond to a warning.

The Rail Safety Improvement Act of 2008 required railroads to place PTC systems in service by December 31, 2015, extended to December 31, 2018, under the following circumstances:

- On all rail main lines over which regularly-scheduled commuter or intercity passenger trains operate



- On all Class I railroad main lines with over 5 million gross ton-miles per mile annually over which any amount of toxic-inhalation hazardous (TIH) materials are handled.

The mandate for PTC excludes all Class II and III railroads regardless of tonnage or number of cars transporting TIH materials if no passenger trains travel over the lines. However, some Class II and Class III railroads must access Class I rail lines. Class I railroads may require these carriers to equip their locomotives with PTC as prerequisite to access their lines. As of July 1, 2019, Class I railroads had equipped all relevant locomotives with PTC, installed wayside units, towers, and trained employees. Ninety-one percent of PTC-required route miles were operational. In 2019, all Amtrak-owned lines had PTC except for a single mile of track in the Chicago area.

1.1.9. Economic and Environmental Impacts

Rail services are vital to Georgia's economy and play an important role in the state's broader bid to preserve and enhance the competitiveness of its businesses. The rail industry stimulates Georgia's economy not only directly through railroad industry spending, but also enabling additional economic activity through the industry's suppliers, customers, and employees. Rail provides a cost-efficient means of moving goods both within Georgia, and to and from more distant markets. Rail provides a means of shipping material inputs from various sources to Georgia businesses as well as moving Georgia produced goods to market avoiding congested roadways.

Impact of Rail on Georgia's Economy

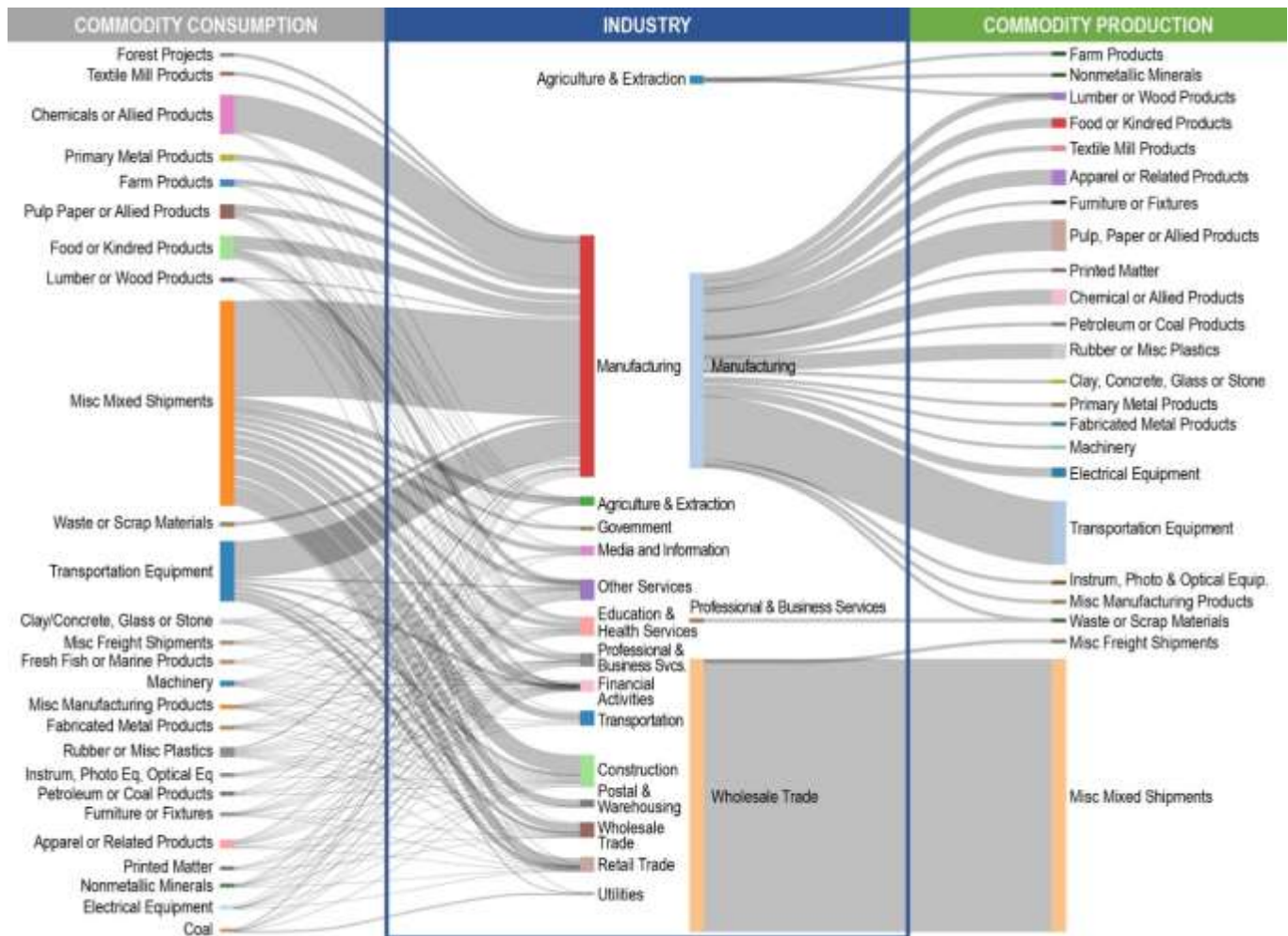
An economic impact analysis was performed to assess the role of railroad transportation in Georgia's economy and can be found in Appendix A. The analysis measures rail's impacts through the measures listed in **Table 1-33**.

Table 1-33: Measures of Rail Impact

Rail Impact Measures	
Employment:	represents both full-time and part-time jobs within a region for a given industry
(Labor) Income	represents not just an employee's level of compensation, but also fringe benefits and proprietor income
Value Added (GDP)	measured as the difference between an industry's economic output, and the value of purchased inputs. Value added includes labor costs, taxes, property income.
Output	represents the total measure of economic activity for an industry in a region including both inputs and value added

The analysis quantifies rail's impact not only from expenditures of the rail industry, its employees and suppliers, but also the impact of commodities shipped by rail to and from rail users in Georgia. Economic impacts associated with rail users are evaluated by quantifying the value of goods received by rail and the value of goods shipped by rail, removing any duplication between the two. **Figure 1-35** displays the relationship between commodities consumed and produced, and industries within Georgia.

Figure 1-35: Georgia's Industry Consumption and Production of Commodities



Source: EDR Group

The analysis considers not only the direct impacts of the railroad industry and its users, but also impacts of the suppliers and employees of these industries. Impacts can be broken down into three types: *direct effects* which are the direct expenditures of the railroad industry and its users, *indirect effects* which are the goods and services by suppliers to meet the demands of the direct activity, and *induced effects* which represent the income earned by workers being re-spent in the economy. **Figure 1-36** shows the interaction between the types of the effects rail has on Georgia's economy.

Figure 1-37 summarizes the economic benefit of rail in Georgia.



Figure 1-36: Overview of Direct, Indirect, and Induced Impacts

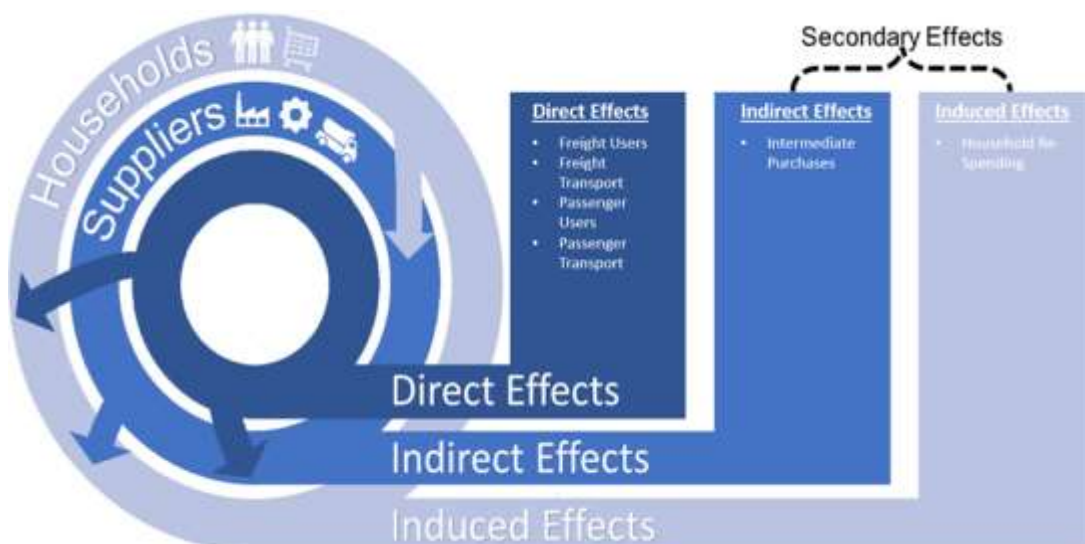


Figure 1-37: Economic Benefit of Rail in Georgia

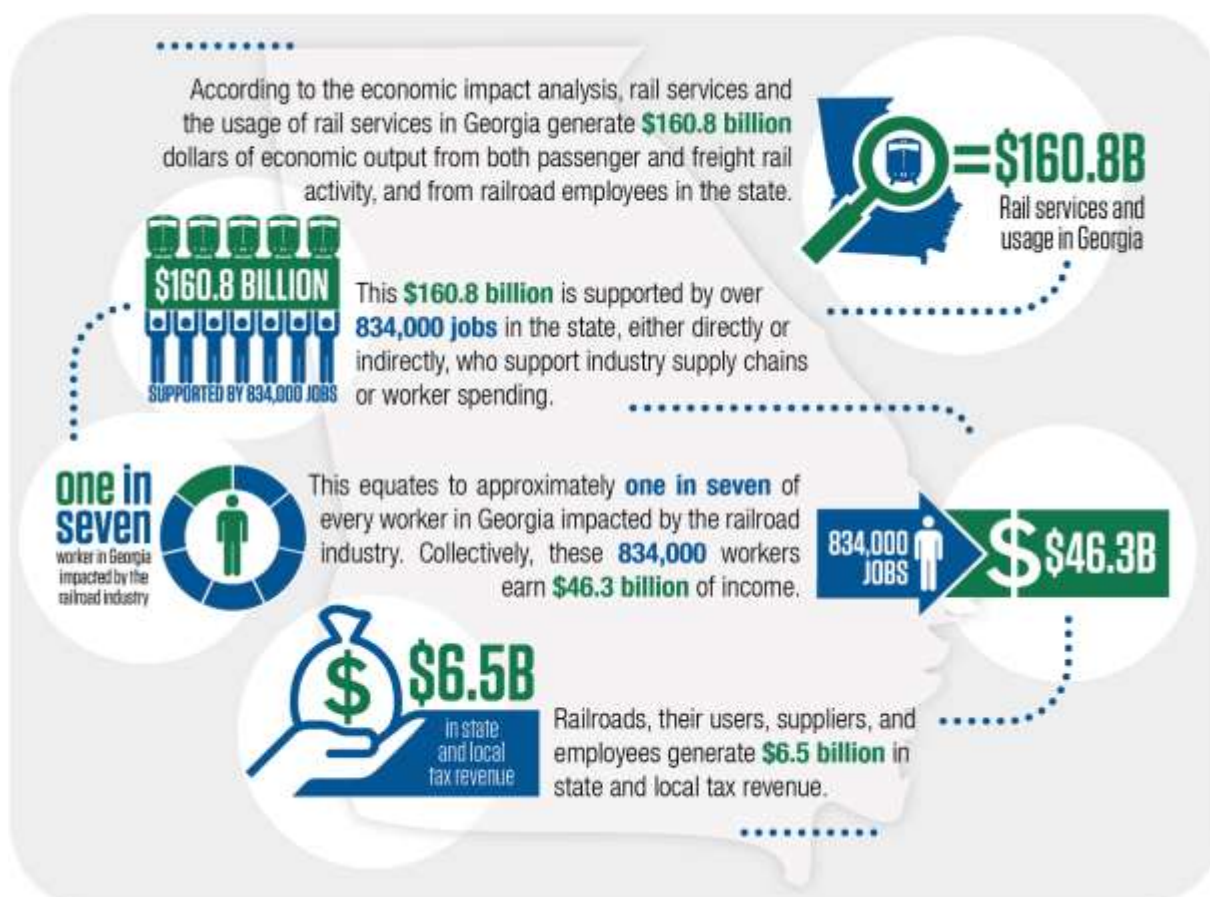




Table 1-34: Total Economic Impacts by Type in Georgia

Impact Type	Employment	Income (\$M)	Value Added (\$M)	Output (\$M)
Direct	392,515	\$23,689	\$41,399	\$92,225
Indirect	205,321	\$12,235	\$19,836	\$35,611
Induced	236,901	\$10,407	\$19,298	\$32,939
Total	834,737	\$46,331	\$80,534	\$160,775

Source: EDR Group, \$M = Millions of US Dollars

Table 1-34 lists the value of total economic impacts of rail by type, most which are associated with the users of freight rail. As shown in **Table 1-35**, between 96 and 98 percent of impacts are associated with freight rail users and the value of commodities that they ship or receive by rail.

Table 1-35: Total Economic Impacts of Rail in Georgia by Type

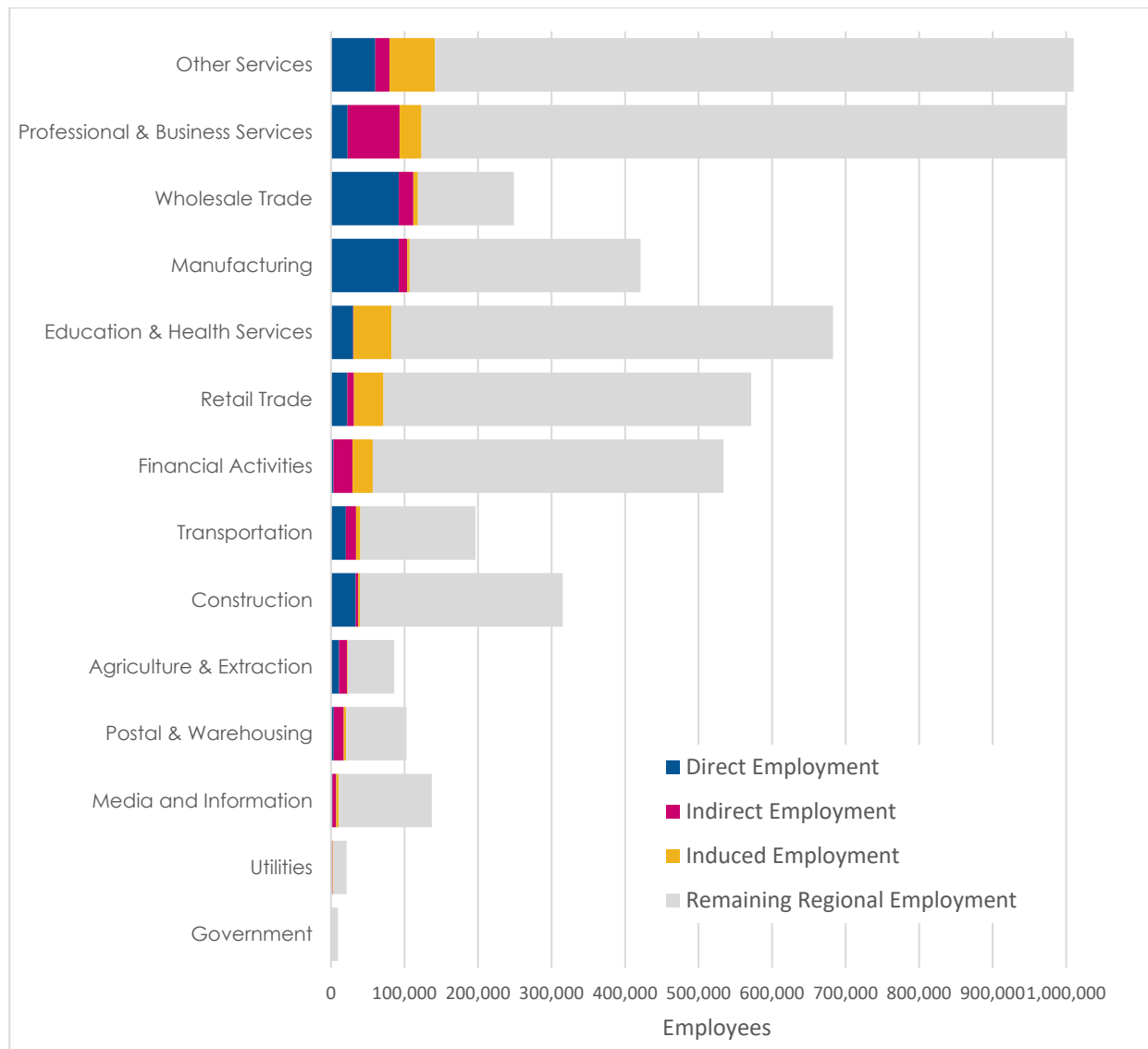
Measure	Freight Rail Industry		Freight Rail Users		Passenger Rail		Total Impact
	Impact	Percent of Total	Impact	Percent of Total	Impact	Percent of Total	
Output (\$M)	4,377.0	3%	156,346.3	97%	51.9	0.03%	160,775.2
Employment	21,040	3%	813,430	97%	267	0.03%	834,737
Labor Income (\$M)	1,751.0	4%	44,560.5	96%	19.4	0.04%	46,330.9
Value Added (\$M)	2,654.4	3%	77,850.6	97%	28.4	0.04%	80,533.4
Taxes (\$M)	152.8	2%	6,389.7	98%	1.5	0.02%	6,544.0

Source: EDR Group, \$M = Millions of US Dollars

The greatest direct impacts of rail are on the manufacturing and wholesale trade industries. However, rail also has a significant impact on other economic sectors. For example, impacts are high on “Other Services” which are attributable to induced spending and Professional & Business Services associated with indirect spending. Employment impacts are shown in **Figure 1-38** as a share of total Georgia employment by sector. Each square represents 1,000 employees.



Figure 1-38: Rail Industry Impacts in Georgia by Sector



Source: Transsearch

A more complete description of the economic impact analysis of rail in Georgia can be found in Appendix B.

Rail Benefits to Georgia

While rail increases economic activity in Georgia as described in the previous section, rail also provides benefits to Georgia in that it creates fewer negative externalities, such as greenhouse gases produced per ton of cargo shipped, than its primary competing mode, trucking. As shown in Chapter 1, most freight tonnage shipped to, from, and within Georgia moves by truck transportation. Shifting freight from highways to rail reduces externalities. One useful exercise to assess the benefits of rail transportation is to consider a scenario in which rail service deteriorates to such an extent that all rail traffic that is truck-competitive shifts to truck. Some commodities



moving certain distances would be unlikely to ever be transported by truck because the cost of trucking would be excessive. An analysis was performed on rail's modal share relative to trucking. It is assumed that if rail's modal share of combined truck and rail tonnage is over 80 percent, this traffic is not truck-competitive. The following meet these criteria:

- Coal over 250 miles
- Gravel over 250 miles

The remaining rail traffic that travels to, from, or within Georgia is truck-competitive. The analysis shows that a well-operating freight rail system in Georgia removes 1.7 billion truck miles from the roadway network both within and outside of Georgia.²²

Fuel Consumption and Emissions Impacts

Numerous sources indicate that rail transport saves energy. According to the Association of American Railroads, on average, railroads are three to four times more fuel efficient hauling the same tonnage of cargo the same distance than trucking.²³ According to FAF-4, trucking nationwide carried 44 percent more ton-miles than rail nationwide as of 2017. The same year, rail accounted for only 2 percent of all transportation-related greenhouse gas emissions, while medium and heavy-duty trucks comprised 23 percent of all transportation greenhouse gas emissions.²⁴ Because rail transportation consumes less fuel, rail also generally generates fewer Clean Air Act Amendments "criteria emissions" or precursors to these emissions than trucking. These are emissions of pollutants identified as being harmful to humans, including carbon monoxide (CO), lead, ozone (O₃), nitrogen dioxide (NO₂), particulate matter (PM), and sulfur dioxide (SO₂). Ozone is created by a reaction between nitrogen oxides (NO_x) and volatile organic compounds (VOC). NO₂ is a type of NO_x.

The U.S. Environmental Protection Agency (EPA) designates non-attainment areas, which are locations where concentrations of pollutants exceed national standards. In Georgia, the counties of Bartow, Clayton, Cobb, DeKalb, Fulton, Gwinnett, and Henry are non-attainment areas for ozone. Rail can help to decrease these harmful emissions. **Table 1-36** displays the net fuel consumption and emission benefits to the United States of Georgia shippers and receivers using rail relative to this freight moving over the highway.

²² The FAF-4 database estimates total ton-miles associated with truck-competitive rail traffic to, from, and within Georgia to be 42.3 billion, including mileage both within and outside of the state. The U.S. Federal Highway Administration, *Quick Response Freight Manual II*, September 2007, Table 4.20 indicates 20.7 tons would be a reasonable estimate for the average payload of competing truck service. Dividing 42.3 billion ton-miles by 20.7 tons per truck indicates 2.0 billion in saved truck vehicle miles traveled (VMT). However, railroad routes between two locations are usually more circuitous than highway routes used by trucks. A WSP analysis of FAF-4 found that for every mile a truck travels between two points, the equivalent rail route is 1.19 times the truck mileage. Dividing 2.0 billion truck VMT by 1.19 to account for the more direct truck routing accounts for 1.7 billion VMT in avoided truck miles.

²³ Association of American Railroads, *The Environmental Benefits of Moving Freight by Rail*, July 2019.

²⁴ United States Environmental Protection Agency, *Fast Facts on Transportation Greenhouse Gas Emissions*, July 2019, Figure: 2017 U.S. Transportation Sector GHG Emissions by Source



Table 1-36: Annual Fuel and Emissions Savings to the U.S. of Georgia Rail

Benefit Category	Highway Parameter ²⁵	Rail Parameter ²⁶	Highway Total	Equivalent Rail Total	Net Benefit of Using Rail
Fuel Consumption	7.34 miles/gallon	402.42 ton-miles/gallon	234 million gallons	105 million gallons	129 million gallons
CO₂	22 lbs/gallon	22 lbs/gallon	2,336,713 metric tons	1,049,879 metric tons	1,286,834 metric tons
NO_x	8.098 grams/VMT	114.0 grams/gallon	13,918 metric tons	11,994 metric tons	1,925 metric tons
PM₁₀	0.309 grams/VMT	2.90 grams/gallon	531 metric tons	305 metric tons	226 metric tons
VOC	0.877 grams/VMT	4.84 grams/gallon	1,507 metric tons	509 metric tons	998 metric tons

Source: WSP Analysis

Community Impacts

While rail supports Georgia's economy and helps relieve congestion, wear and tear on Georgia's roadways, provides safety and environmental benefits, it is important that conflicts between the rail network, other land uses, and other transportation networks be minimized. As discussed earlier in this chapter, there are over 5,000 public vehicular highway-rail grade crossings in Georgia. GDOT, railroads, and communities work to minimize the conflicts created by these crossings. It is also important that land uses be compatible. Railroads support industrial activities that may be incompatible with residential land uses. These areas should be appropriately zoned with appropriate buffers between industrial and retail/commercial areas.

²⁵ U.S. Energy Information Administration (EIA) 2018 Annual Energy Outlook; 2017 emissions rates from WSP analysis of EPA MOVES model

²⁶ 2017 fuel consumption values from Association of American Railroads; 2017 emissions rates from U.S. EPA



1.2. Trends and Forecasts

This section presents projected future conditions and trends for freight and passenger rail in Georgia and the factors that influence them. It explores projected changes to demographics and economic growth factors, demand for freight movement, demand for passenger travel, and projected trends in fuel costs, rail congestion, highway and airport activity, and land uses.

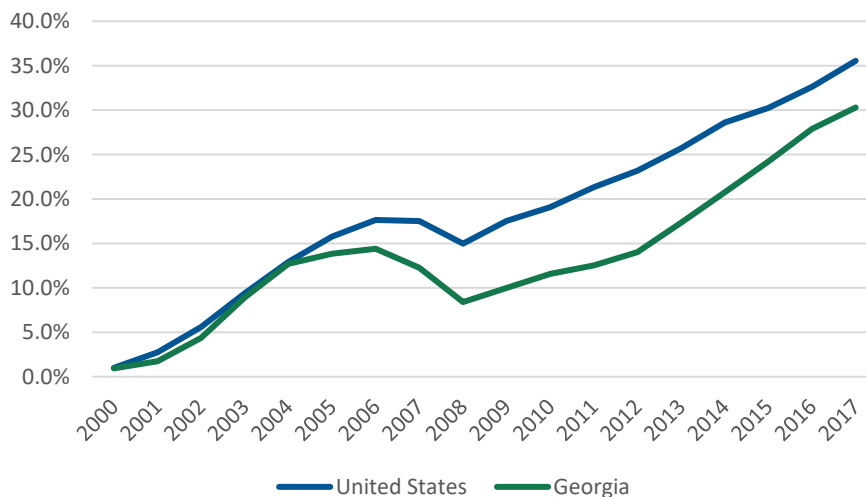
1.2.1. Demographic and Economic Growth Factors

Freight and passenger rail transportation demand in Georgia will be influenced by economic and demographic factors, including changes in gross state product, income, population, and employment, as well as industry composition. This section will explore economic and demographic trends to provide a context for current and forecast freight and passenger rail transportation demand in the state.

Gross Domestic Product

Gross Domestic Product (GDP) is a measure of overall economic activity in the state. Georgia's GDP increased from \$393 billion (2012\$) in 2000 to \$529 billion (2012\$) in 2018, an increase of 35 percent, compared to a 42 percent growth in national GDP over the same period.²⁷ The state was hit particularly hard by the Great Recession, but has since significantly recovered. While GDP growth in Georgia lagged behind that of the U.S. each year from 2006 to 2013, growth was generally higher than that of the United States between 2014 and 2018. **Figure 1-39** displays cumulative real GDP growth for Georgia and the United States between 2000 and 2018.

Figure 1-39: Georgia and United States Cumulative Real GDP Growth (2000-2018)



Source: U.S. Bureau of Economic Analysis

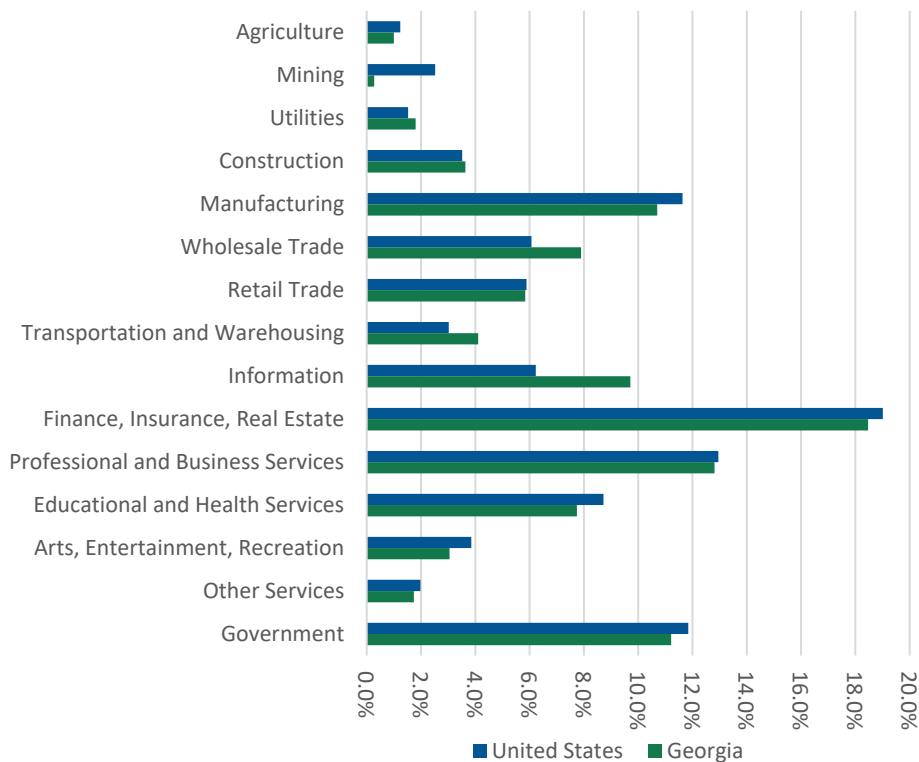
²⁷

U.S. Bureau of Economic Analysis



Georgia's largest industry sector in terms of GDP is finance, insurance, and real estate, which contributed to 18.5 percent of state GDP in 2018, followed by professional and business services, which contributed 12.8 percent of GDP in 2018.²⁸ While all of Georgia's economy depends on the movement of freight, certain sectors are particularly dependent on freight transportation, specifically manufacturing, retail and wholesale trades, transportation and warehousing (includes the rail industry), construction, utilities, mining, and agriculture. Collectively, these industries contributed \$187 billion or 35 percent of Georgia's GDP. Of the sectors that are particularly reliant on freight transportation, manufacturing is the largest, followed by wholesale trade and then retail trade (**Figure 1-40**). Manufacturing is a slightly smaller percentage of Georgia's economy than it is elsewhere in the U.S., but wholesale trade, transportation and warehousing occupy a larger share of the state's economy than in other parts of the country. Rail also has significant impacts on service sectors in Georgia due to spending by railroad customers, suppliers, and railroad employees.

Figure 1-40: Georgia and United States Sectors by Share of Real GDP (2018)



Source: U.S. Bureau of Economic Analysis, Real GDP by State (Chained 2012\$)

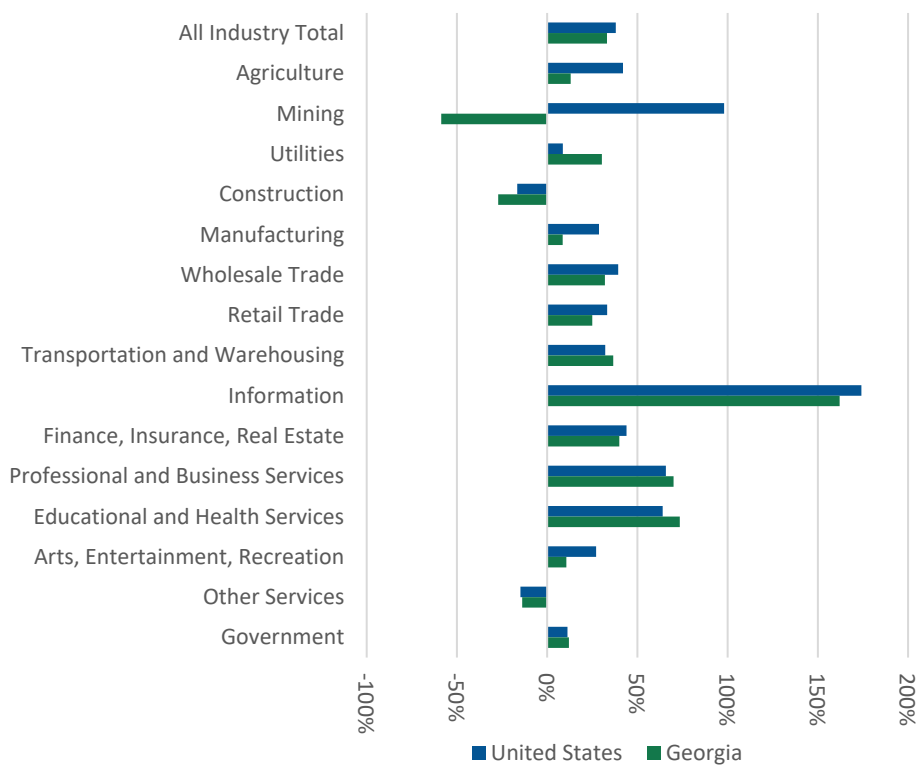
²⁸

U.S. Bureau of Economic Analysis, Real GDP by State (Chained 2012\$)



As in other parts of the country, many of Georgia's fastest growing industries have been in the information and service sectors. The information sector includes data processing and hosting services, broadcasting, and telecommunications, which has grown in Georgia due to the boom in technology services companies. Two freight transportation-dependent sectors, construction and mining, declined between 2000 and 2018. Manufacturing grew only slightly during this period. On the other hand, transportation and warehousing, wholesale trade and retail trade have grown significantly. **Figure 1-41** displays real GDP growth by sector between 2000 and 2018 for Georgia and the United States.

Figure 1-41: Georgia vs. United States Real GDP Growth by Sector (2000-2018)



Source: U.S. Bureau of Economic Analysis, Real GDP by State (Chained 2009\$)

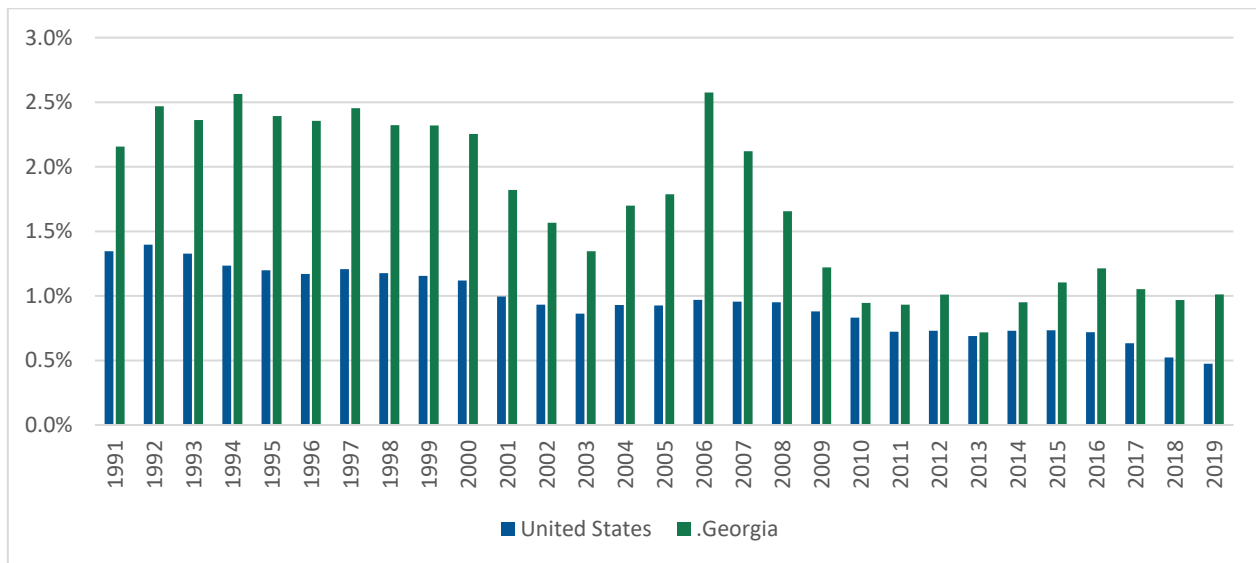
Population

Georgia's population has consistently grown faster than the U.S. as a whole, with growth slowing somewhat in recent years (**Figure 1-42**). Between 2000 and 2018, Georgia population grew 27.8 percent, compared to the nationwide growth of 15.8 percent.²⁹ Georgia is the nation's 8th most populous state.

²⁹ U.S. Census Bureau, Population Estimates, 2000-2018



Figure 1-42: Georgia and United States Year-Over-Year Percentage Growth in Population



Source: Georgia Governor's Office of Planning and Budget

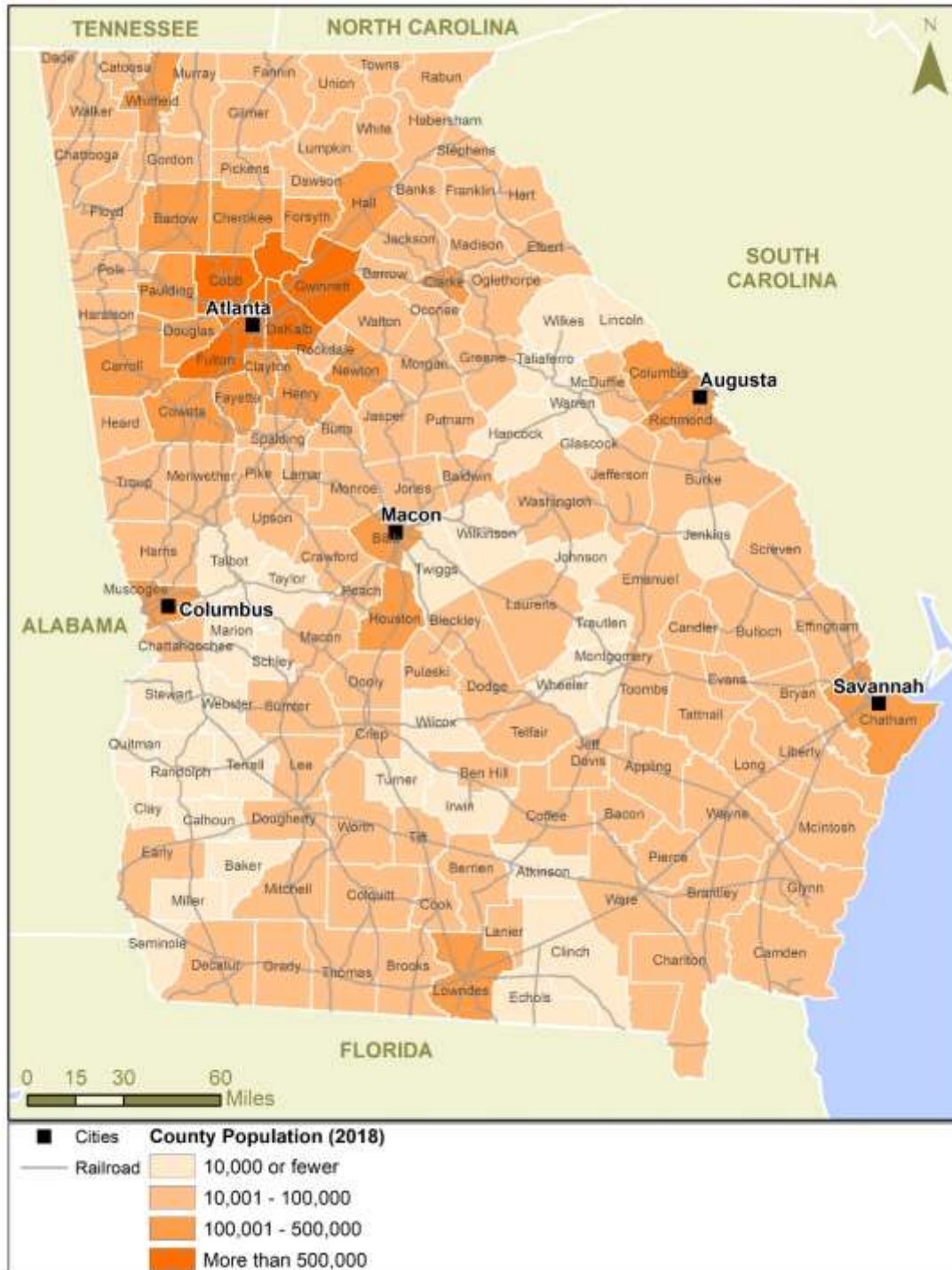
Figure 1-43 shows the 2018 county populations in Georgia. Almost all counties with a population over 100,000 are located near major cities in Georgia. For example, over half of the state's population is in the Atlanta metropolitan area.

Georgia's Governor's Office of Planning and Budget estimates that slow population growth will continue over the next few decades. In its 2018 to 2063 forecasts, the agency expects Georgia's population to reach 12.29 million by 2030 and 13.30 million by 2040.³⁰ However, parts of the state are expected to experience strong population growth during this period. As examples, Forsyth County is projected to grow 145 percent between 2018 and 2040 while Fulton County is forecast to grow 45 percent. Both are within the Atlanta metropolitan area. In general, the strongest projected growth in the state is expected to occur in the Atlanta metropolitan area, while areas in the central and western part southwestern part of the state are expected to see declines in population (**Figure 1-44**).

³⁰

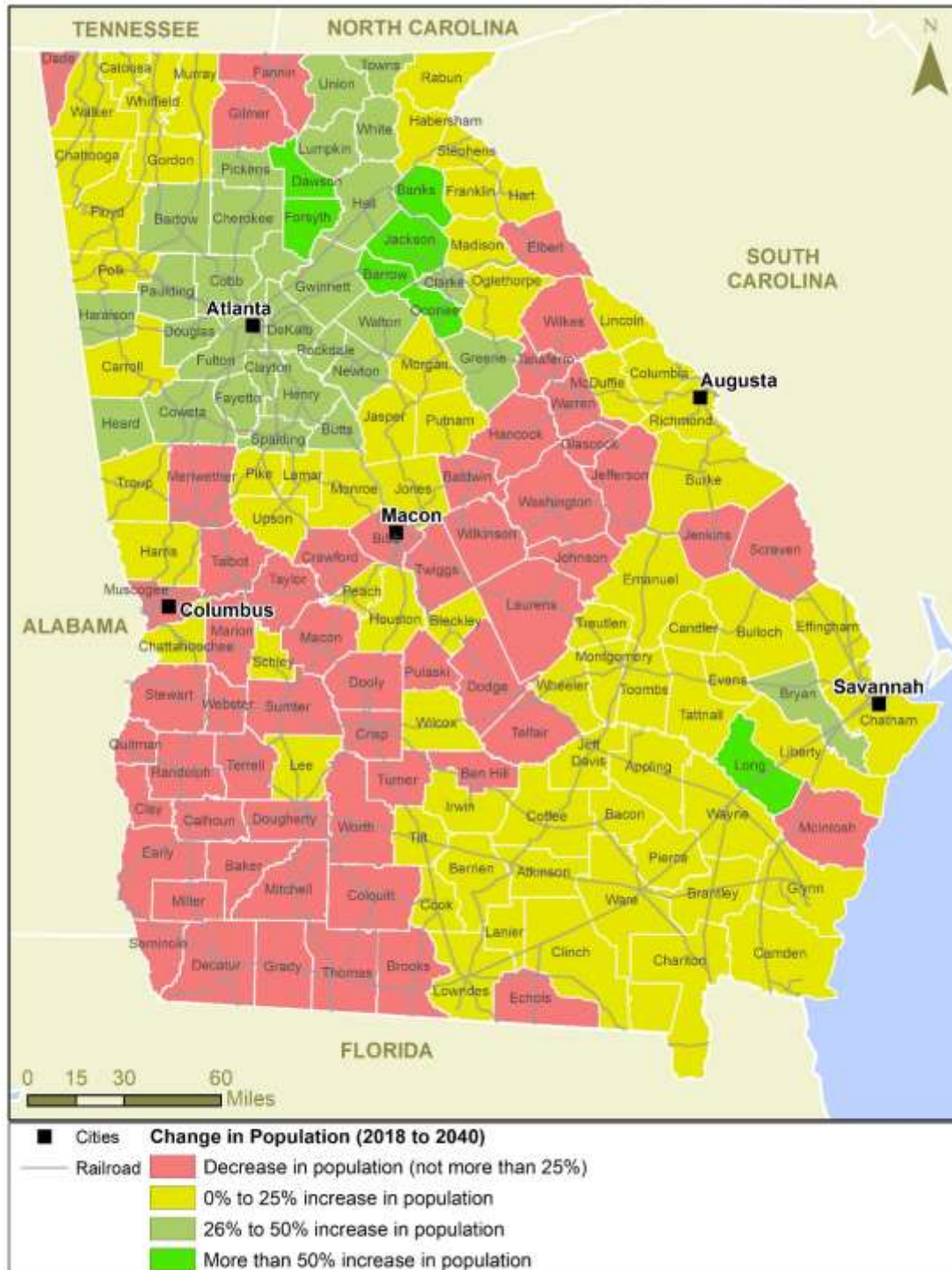
Georgia Governor's Office of Planning and Budget, *2018 to 2063 Georgia Residential Population Projections*

Figure 1-43: Georgia Population in 2018



Source: Georgia Governor's Office of Planning and Budget

Figure 1-44: Counties with Highest and Lowest Projected Population Growth, 2018 - 2040



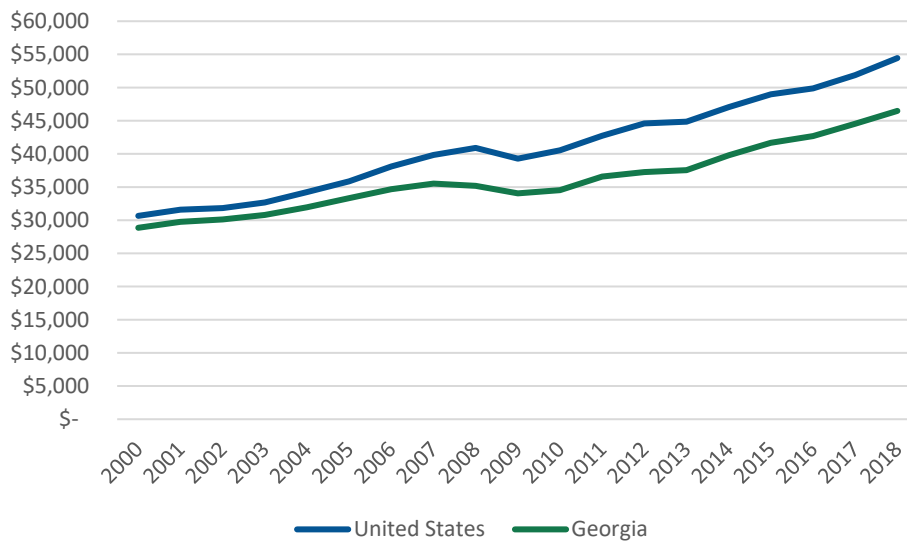
Source: Georgia Governor's Office of Planning and Budget



Income

In 2018, Georgia's per capita personal income was \$46,482, 15 percent lower than the U.S. average per capita personal income of \$54,446.³¹ Over the last 10 years, personal income in Georgia has grown at an average annual compound growth rate of 2.8 percent, roughly level with the nationwide average of 2.9 percent. **Figure 1-45** displays per capita personal income in Georgia and nationally between 2000 and 2018.

Figure 1-45: Georgia vs. United States Per Capita Personal Income



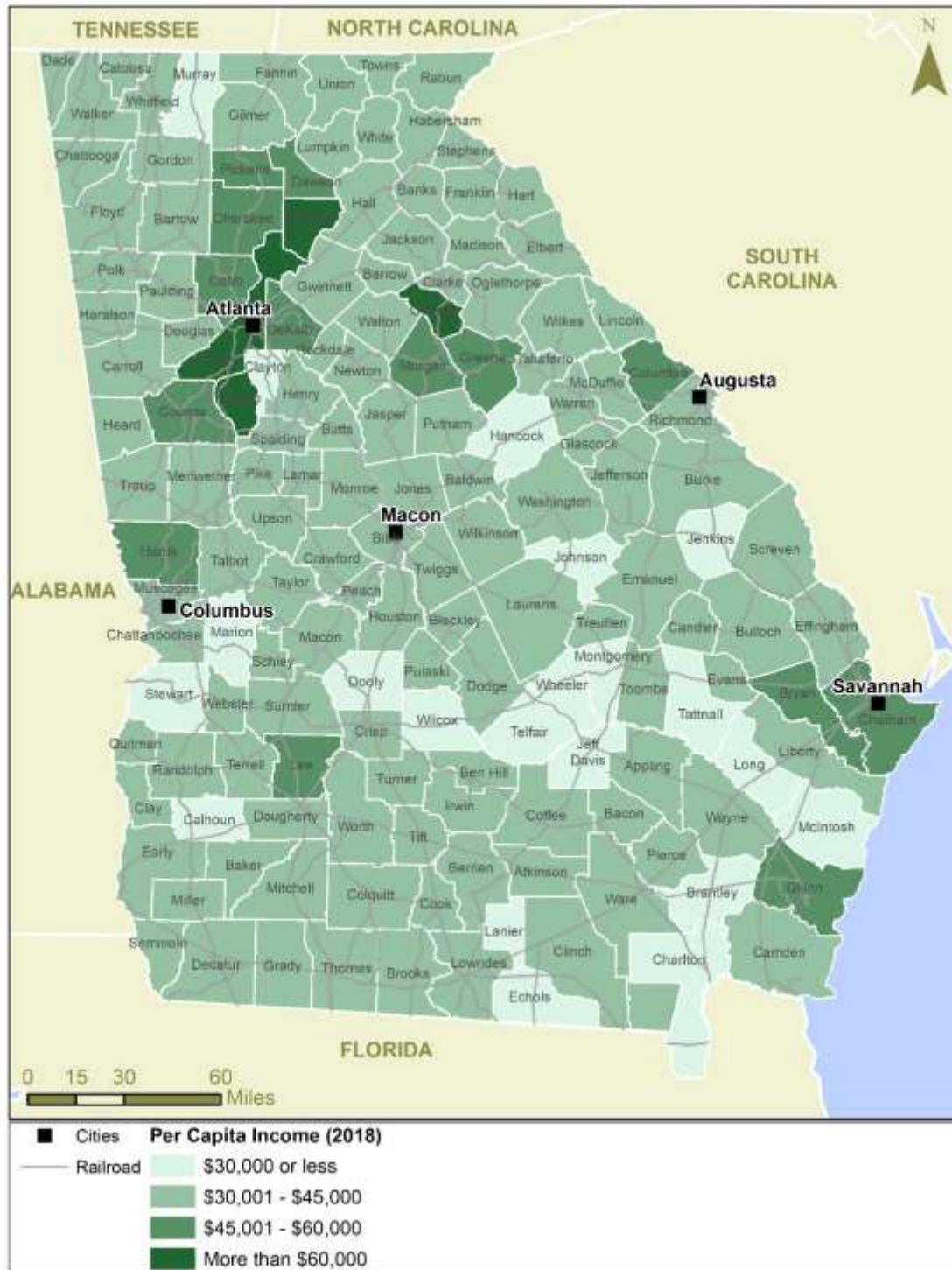
Source: U.S. Bureau of Economic Analysis, Per Capita Personal Income in Georgia, SAINC1

Fulton County, a county encompassing west Atlanta, has the highest median household income in the state, estimated at \$84,386 (2018\$) according to the Bureau of Economic Analysis.³² This is 82 percent higher than the state median of \$46,482. Other counties with high median household incomes include Oconee County (\$66,740), Fayette County (\$63,515), and Forsyth County (\$62,580). These are suburban counties located near the cities of Athens and northeastern and southwestern Atlanta, respectively (**Figure 1-46**).

³¹ U.S. Bureau of Economic Analysis, *State Per Capita Personal Income*

³² U.S. Department of Commerce, Bureau of Economic Analysis, CAINC1 Personal Income Summary: Per Capita Personal Income, 2018

Figure 1-46: Personal Income Per Capita by County, 2018



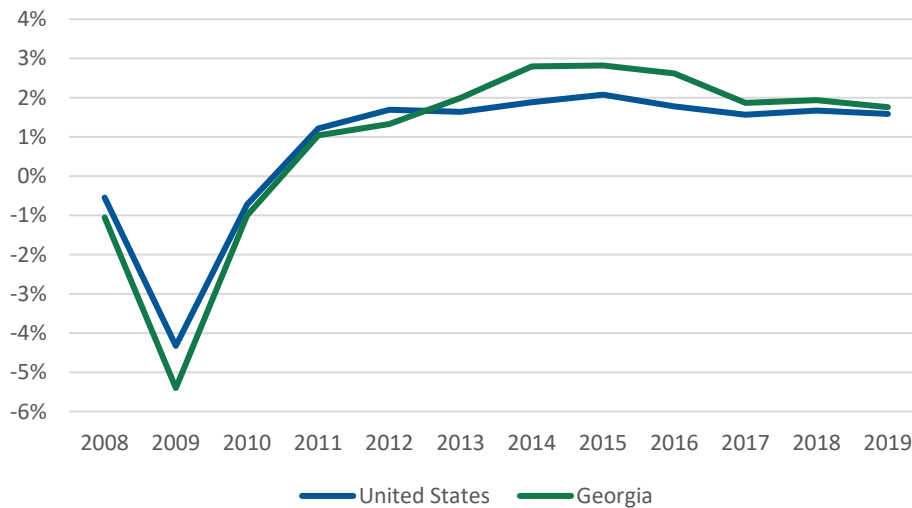
Source: U.S. Bureau of Economic Analysis, State Per Capita Personal Income



Employment

According to the U.S. Bureau of Labor Statistics, total nonfarm employment in Georgia stands at 4.6 million as of November 2019, about 10 percent above its pre-recession peak and over 20 percent higher than its recession low.³³ **Figure 1-47** displays year-over-year employment growth for Georgia and the United States from 2008 to 2018. Employment in Georgia saw a sharper decline than the overall United States during the recession, but has recovered since 2012.

Figure 1-47: Georgia vs. United States Year-Over-Year Employment Growth.



Source: U.S. Bureau of Labor Statistics

As illustrated in **Figure 1-48**, Georgia's industry sectors with the highest share of employment are trade, transportation, and utilities (20.7 percent); professional & business services (15.3 percent); and government (15.0 percent).³⁴

Certain industries have a substantially stronger presence in Georgia than in the rest of the country as measured by employment. The share of total employment represented by the trade, transportation and utilities sector in Georgia, for instance, is 21 percent higher than the national average, with just above 950,000 jobs in Georgia. Mining and other services sectors, on the other hand, are underrepresented in Georgia compared to the United States. **Table 1-37** shows each major sector's location quotient, defined as the concentration of employment in Georgia relative to the concentration in the United States. For example, the share of total employment represented by construction in Georgia is 93 percent of its share in the nation overall.³⁵ The manufacturing sector's share of Georgia's economy is like the averaging manufacturing share of the economy across the United States.

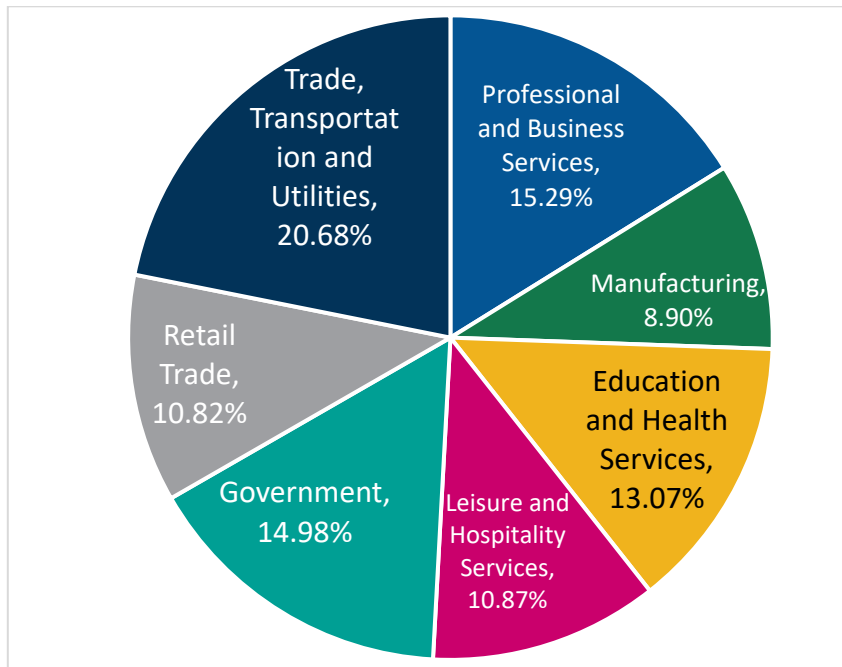
³³ U.S. Bureau of Labor Statistics, *Economy at a Glance*

³⁴ U.S. Bureau of Labor Statistics, *Economy at a Glance*

³⁵ U.S. Bureau of Labor Statistics, *Economy at a Glance & Current Employment Statistics – CES (National)*



Figure 1-48: Georgia Percent Employment by Sector in 2019



Source: U.S. Bureau of Labor Statistics

Table 1-37: Georgia vs. United States Sector Location Quotient (Second Quarter, November 2019)

Sector	Location Quotient
Trade, Transportation, and Utilities	1.21
Information	1.21
Professional and Business Services	1.09
Manufacturing	0.94
Construction	0.93
Financial Activities	0.93
Leisure and Hospitality	0.93
Education and Health Services	0.92
Other Services	0.83
Natural Resources and Mining	0.38

Source: U.S. Bureau of Labor Statistics, Economy at a Glance & Current Employment Statistics (National)

The Georgia Department of Labor, in its long-term employment projections, estimates that Georgia will add around 525,000 jobs between 2016 and 2026 (a 11.7 percent increase) as shown in **Table 1-38**.³⁶ Approximately 66,000 of these new jobs will be in the health care and social assistance sector, employment in which is projected to grow by 19.3 percent during this period. Architecture and engineering services, education services, personal care and service, and business and financial operations are also among the occupations expected to grow fastest. Transportation and

³⁶ Georgia Department of Labor, Long-Term Occupational Outlook, December 2019



material moving occupations are also expected to grow at a rate faster than the statewide average and add nearly 55,000 jobs by 2026.

Table 1-38: Forecast Change in Employment in Georgia by Occupation

Occupation	2016 Base Employment	2026 Proj. Employment	Chg in Employment	% Chg in Employment	Annual Growth %
Transportation and Material Moving Occupations	363,210	417,210	54,000	14.9%	1.4%
Sales and Related Occupations	474,320	524,980	50,660	10.7%	1.0%
Healthcare Practitioners and Technical Occupations	241,460	285,470	44,010	18.2%	1.7%
Office and Administrative Support Occupations	652,470	693,020	40,550	6.2%	0.6%
Education, Training, and Library Occupations	267,420	307,660	40,240	15.0%	1.4%
Management Occupations	314,130	350,910	36,780	11.7%	1.1%
Business and Financial Operations Occupations	232,110	266,800	34,690	15.0%	1.4%
Food Preparation and Serving Related Occupations	396,000	430,510	34,510	8.7%	0.8%
Personal Care and Service Occupations	126,350	151,360	25,010	19.8%	1.8%
Installation, Maintenance, and Repair Occupations	183,970	208,440	24,470	13.3%	1.3%
Production Occupations	306,750	329,690	22,940	7.5%	0.7%
Healthcare Support Occupations	101,370	123,400	22,030	21.7%	2.0%
Construction and Extraction Occupations	161,500	180,910	19,410	12.0%	1.1%
Computer and Mathematical Occupations	131,510	147,540	16,030	12.2%	1.2%
Building and Grounds Cleaning and Maintenance Occupations	139,350	153,810	14,460	10.4%	1.0%
Architecture and Engineering Occupations	62,310	72,080	9,770	15.7%	1.5%
Community and Social Service Occupations	70,770	78,930	8,160	11.5%	1.1%
Arts, Design, Entertainment, Sports, and Media Occupations	61,130	68,950	7,820	12.8%	1.2%
Protective Service Occupations	105,300	113,010	7,710	7.3%	0.7%
Farming, Fishing, and Forestry Occupations	56,740	61,470	4,730	8.3%	0.8%
Legal Occupations	33,340	37,490	4,150	12.5%	1.2%
Life, Physical, and Social Science Occupations	23,330	26,150	2,820	12.3%	1.2%
Total, All Occupations	4,504,560	5,029,480	524,920	11.7%	1.1%

Source: Georgia Department of Labor



1.2.2. Freight Demand and Growth

This section presents the historical trends and existing conditions of freight rail activity in Georgia.

Existing Conditions for Freight Rail Flows (2017)

In 2017, 171.8 million tons of freight moved to, from, within, or through Georgia by rail -often referred to as 'Freight Flows'. **Table 1-39** presents the 2017 Georgia freight rail flows data by direction. Half of the freight rail shipments flowing through Georgia were considered “overhead,” meaning that they consisted of freight moving between other states. This document does not discuss overhead shipments because they do not directly impact Georgia’s economy.

Georgia receives more freight by rail than it ships. Thirty percent of the state’s total rail tonnage is shipped from other states to Georgia, while 14 percent of the total rail tonnage is transported from Georgia to other states. A smaller share of the state’s rail tonnage (6 percent) is shipped within Georgia. The directional distribution of traffic demonstrates the importance of Georgia’s rail transportation system to both rail users located in the state and outside of the state.

Table 1-39: Georgia Freight Rail Flows by Direction (2017)

Direction	Tons	Percentage of Total
Inbound	52,076,476	30%
Intrastate	11,111,069	6%
Outbound	23,451,030	14%
Overhead (Pass-through)	85,124,348	50%
Total	171,762,923	100%

Source: STB Waybill Sample

Commodities that Originate or Terminate in Georgia

Table 1-40 summarizes the commodities shipped to, from, or within Georgia. Coal, at 16,649,522 tons, represents the largest tonnage moving to Georgia by rail, accounting for 32 percent of the tons shipped to Georgia. Chemicals (6,688,663 tons) are the second largest share of inbound rail tonnage, with 13 percent. Farm products and mixed shipments are another 12 and 11 percent of the total inbound tonnage, at 6,092,742 tons and 5,884,720 tons, respectively. The remainder of inbound shipments consist primarily of food and kindred products (9 percent), stone, clay, glass, and concrete products (5 percent), pulp, paper and allied products (5 percent), and nonmetallic minerals (3 percent). Uncategorized shipments (“other”) make up the other 11 percent of inbound rail tonnage.

Georgia is a major source of nonmetallic minerals, and over 10 million tons were shipped by rail from or within Georgia in 2017. Nonmetallic minerals account for 4,791,365 tons of intrastate shipments, 43 percent of the total tonnage. Mixed shipments, which consist of intermodal containers, (1,540,960 tons) make up 14 percent of intrastate tonnage, and stone, clay, glass, and concrete products (987,440) account for another 9 percent. Other intrastate shipments can be classified as pulp, paper and allied products (5 percent), chemicals (4 percent) and food and kindred products (2 percent). Other uncategorized commodities account for 24 percent of intrastate freight rail tonnage. Coal or farm products are not shipped intrastate.



Nonmetallic minerals also account for 27 percent (6,334,322 tons) of outbound shipments from Georgia to other states. Mixed shipments (5,134,120 tons) make up 22 percent of outbound tonnage, and pulp, paper and allied products (2,414,720) account for 10 percent. Other major outbound commodities by tonnage are stone, clay, glass, and concrete products (9 percent), chemicals (6 percent), food and kindred products (5 percent), and farm products (3 percent). Uncategorized commodities account for 18 percent of outbound tonnage. Outbound shipments of coal are less than 1 percent of outbound total tonnage.

Table 1-40: Georgia Freight Rail Tonnage by Direction and Commodity (2017)

Commodity Type	Inbound	Intrastate	Outbound	Total
Coal	16,649,522	0	9,440	16,658,962
	32%	0%	<1%	21%
Nonmetallic Minerals	1,521,536	4,791,365	6,334,322	12,647,223
	3%	43%	27%	16%
Mixed Shipments (Intermodal)	5,884,720	1,540,960	5,134,120	12,559,800
	11%	14%	22%	16%
Chemicals	6,688,663	450,480	1,384,408	8,523,551
	13%	4%	6%	11%
Farm Products	6,092,742	0	734,836	6,827,578
	12%	0%	3%	9%
Food and Kindred Products	4,689,771	177,164	1,184,448	6,051,383
	9%	2%	5%	8%
Stone, Clay, Glass, Concrete Prd	2,501,924	987,440	2,101,423	5,590,787
	5%	9%	9%	7%
Pulp, Paper and Allied Products	2,536,600	532,880	2,414,720	5,484,200
	5%	5%	10%	7%
Other	5,510,998	2,630,780	4,153,313	5,484,200
	11%	24%	18%	7%
Total	52,076,476	11,111,069	23,451,030	79,827,684

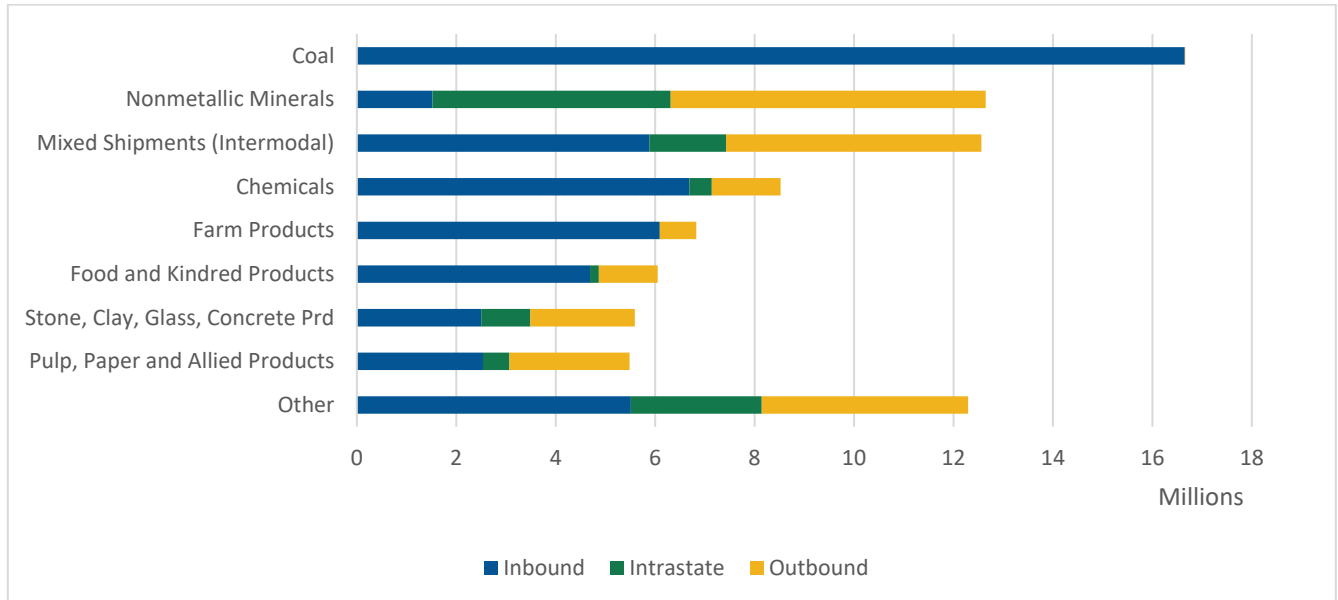
Source: STB Waybill Sample

Figure 1-49 illustrates the inbound, outbound, and intrastate rail freight tonnages of top commodities for Georgia. While there are no outbound and minimal intrastate shipments of coal, coal is still the top overall rail commodity in Georgia by total tonnage, with 16,658,962 tons shipped, which was 22 percent of all freight rail tonnage to, from, or within Georgia. Nonmetallic minerals



(12,647,223 tons) and mixed shipments (intermodal) (12,559,800 tons) each make up another 17 percent of total tonnage shipped.

Figure 1-49: Commodity Distribution of Freight Rail Tonnage To/From/Within Georgia (2017)



Source: STB Waybill Sample

Geography of Georgia Freight Rail Traffic

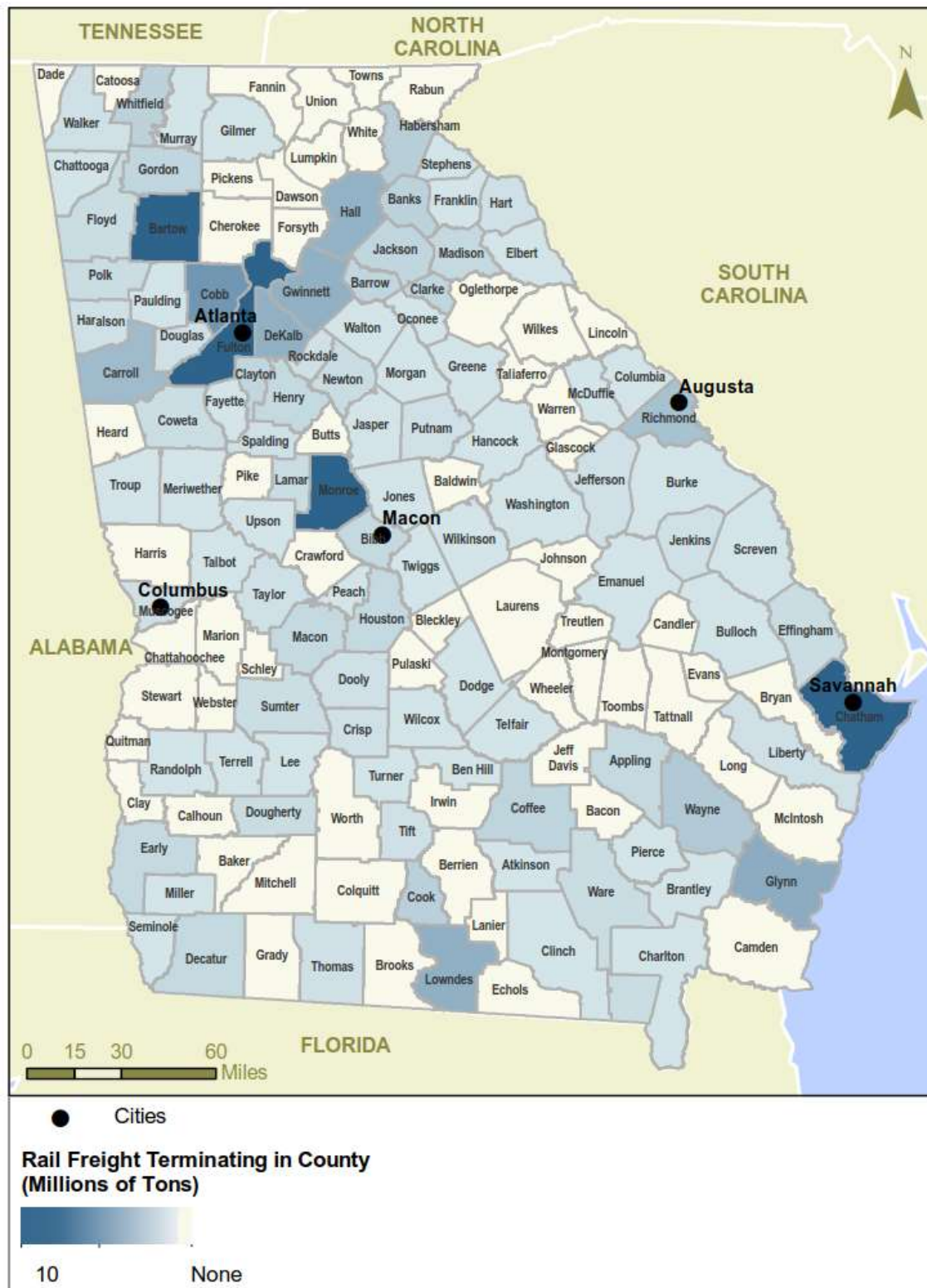
Figure 1-50 and **Figure 1-51** display terminating and originating rail tonnages by county. As can be seen from these figures, several counties both originate and terminate particularly large volumes of freight. In some cases, rail functions as a support to the larger economy in and around the county, while in other cases, specific commodities are produced or consumed in that county that require rail for transport. Top freight-terminating counties are:

- Bartow County
- Chatham County
- Fulton County
- Monroe County

Fulton County, in which Atlanta is located, produces and consumes a range of commodities shipped by rail. It is both the largest origin and destination of intermodal shipments in Georgia, but also ships and receives large volumes of commodities shipped in carloads as well. Chatham County, where the Port of Savannah is located, is another county with a high concentration of rail shipments. It is the state's second largest origin and destination of intermodal shipments in Georgia. Bartow and Monroe Counties receive significant amounts of coal used by two large power plants.



Figure 1-50: 2017 Freight Rail Tonnage Terminating by Georgia County



Source: STB Waybill Sample



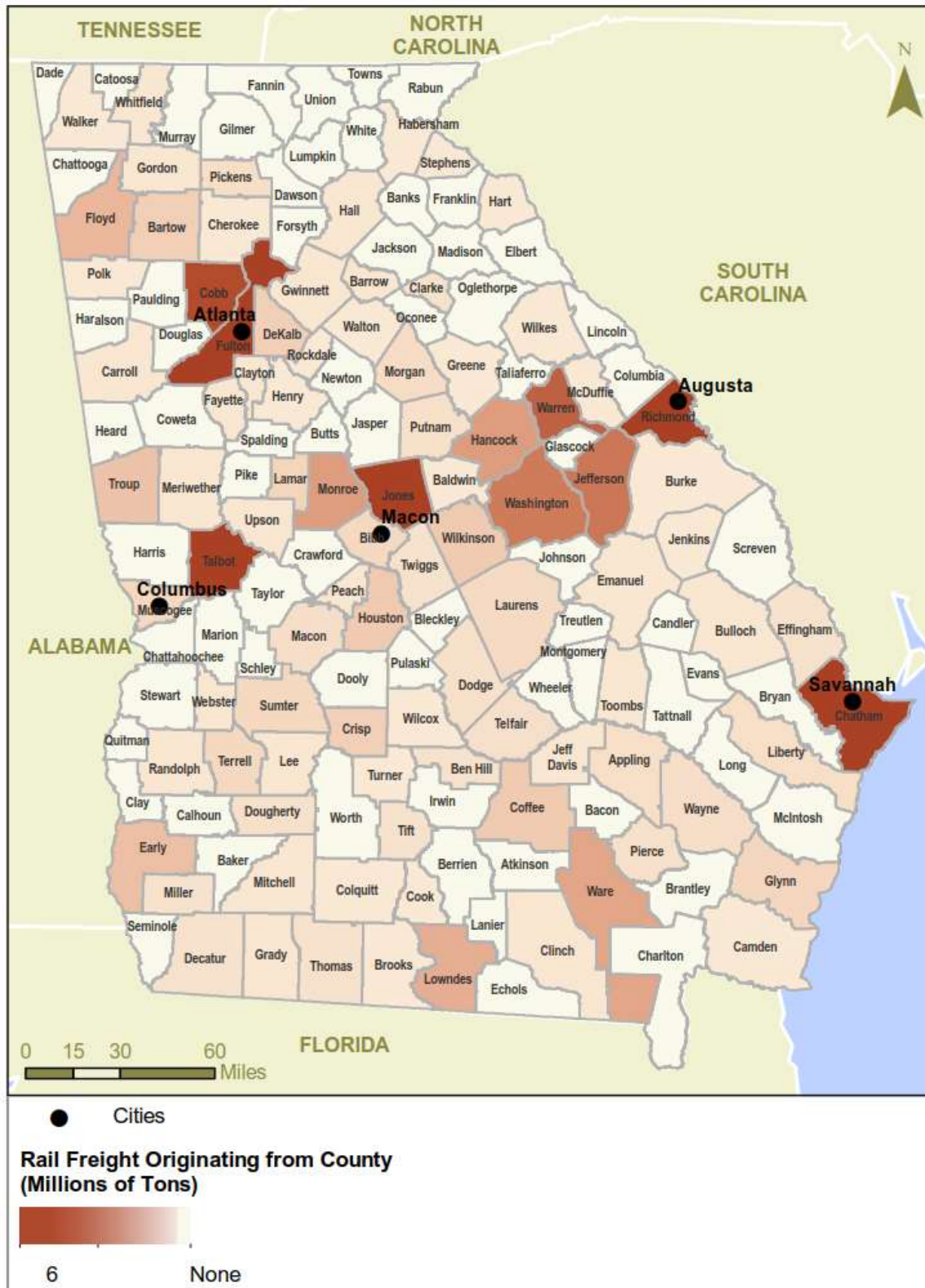
Top freight-originating counties are:

- Cobb County
- Chatham County
- Fulton County
- Talbot County
- Jones County
- Richmond County

Aside from Chatham and Fulton Counties, top freight-terminating counties are not the same at the top freight-originating counties. Jones County, north of Macon, and Talbot County, northeast of Columbus, originate significant tonnages of broken stone from several large quarries. Richmond County, where Augusta is located, also originates broken stone from quarries, as well as other commodities shipped by rail such as pulp and paper, and chemicals.



Figure 1-51: 2017 Freight Rail Tonnage Originating by Georgia County



Source: STB Waybill Sample



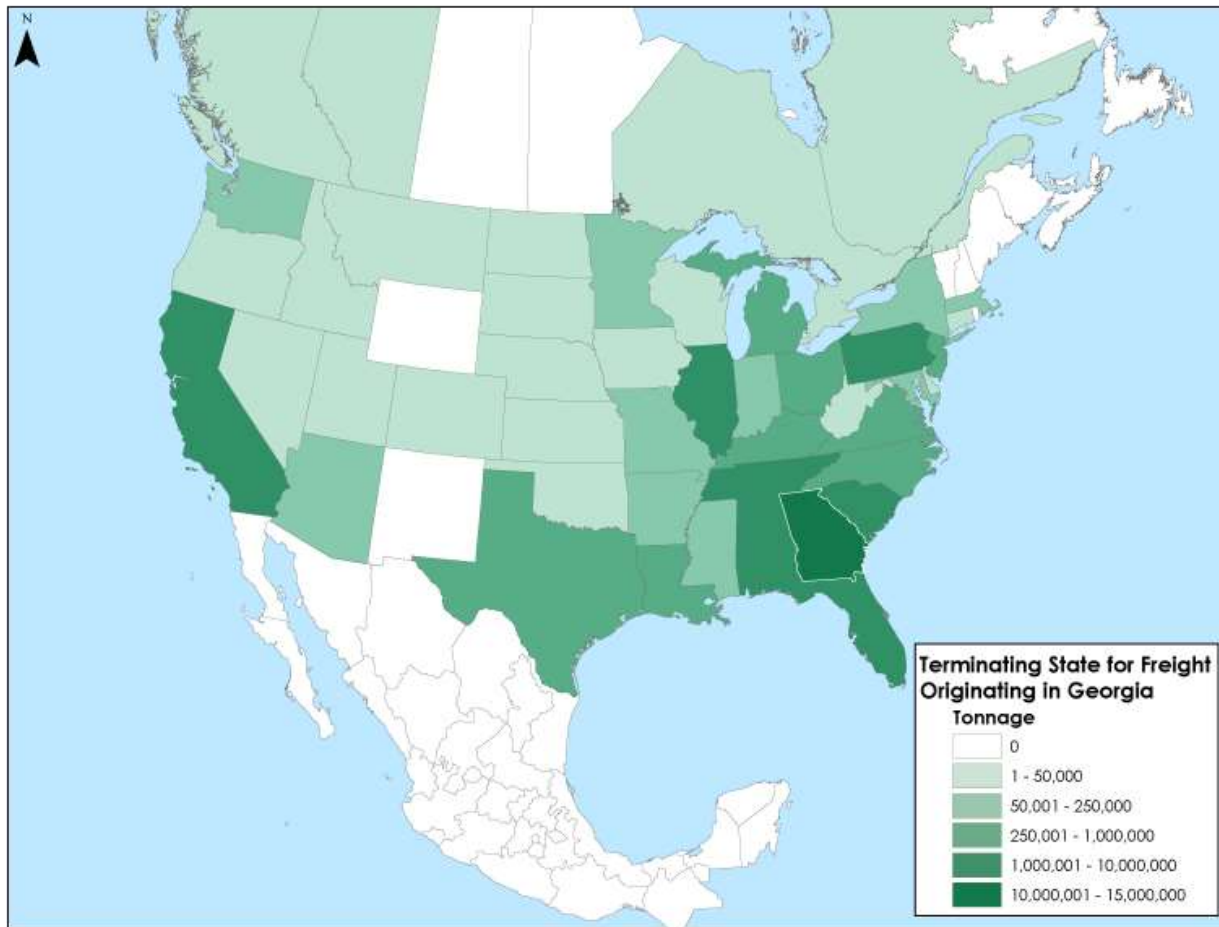
Figure 1-52 illustrates freight rail tonnage by state of destination for rail shipments originating in Georgia. **Figure 1-53** illustrates freight rail tonnage by state of origin for freight rail terminating in Georgia. With over 11 million tons shipped by rail within the state in 2017, Georgia is its own largest single trading partner, with crushed stone, lumber, clay, and intermodal being the top intrastate commodities. The next largest trading partners are Illinois, Wyoming, Alabama, Indiana, and Florida. The nature of trade with these states is as follows.

- Georgia receives a variety of commodities from or through Illinois, where in many cases Illinois serves as a gateway to western rail markets.³⁷ Top commodities, by tonnage received from Illinois include farm products, food products, coal, chemicals, and intermodal freight.
- Indiana ships many of the same commodities that are shipped to Georgia by rail from Illinois. These include farm products, food products, chemicals, and coal.
- Georgia receives a range of products that either originate or pass through Alabama by rail, the highest volume of which are intermodal. Like Illinois, Alabama serves as a gateway with most intermodal traffic received from Alabama ultimately originating elsewhere on the BNSF Railway and transferring to CSX in Alabama.
- Georgia receives coal by rail from Wyoming. This freight passes through Memphis, Tennessee where it is transferred from the western originating railroads to the eastern railroads serving Georgia.
- Georgia's rail trade with Florida is mostly comprised of outbound shipments of crushed stone from Georgia's quarries.

³⁷ This analysis relies on the STB Waybill Sample, which is a sample of terminating waybills. A waybill is a shipping document prepared by a railroad showing the point of origin, destination, route, shipper, consignee, description of shipment, weight, charges and other data necessary to complete the shipment. For most rail moves involving multiple railroads, one railroad establishes a waybill, and portions of the rail move involving other railroads are covered under the same waybill. However, for some rail moves, each railroad creates a separate waybill, so that no one waybill covers the entire rail move. The STB Waybill Sample includes a code which indicates whether that waybill represents a portion of a rail move or the entire rail move. Sometimes, shipments to and from Georgia require the transfer between railroads that operate in the eastern portion of the U.S. (e.g. NS and CSX) and those that operate in the western portion of the U.S. (e.g. BNSF, UP, and KCS). Often, these transfers occur at gateway cities where eastern and western railroads interchange, such as Chicago, Memphis, and Birmingham. In these cases, waybills may show origins and terminations at the gateway cities even though the ultimate origin or destination of the rail move was on a western railroad within the western railroad's operating territory.

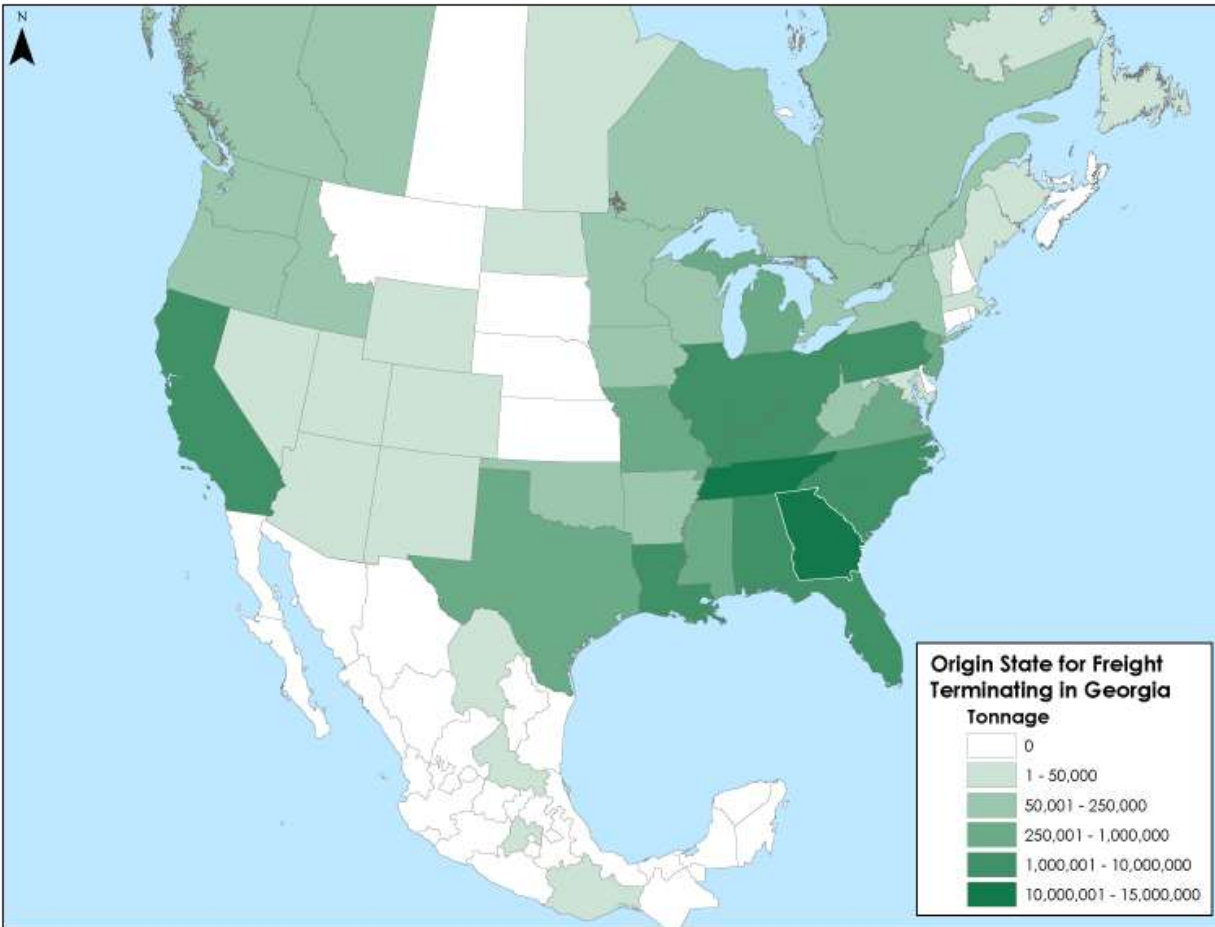


Figure 1-52: 2017 Freight Rail Tonnage by Terminating State for Freight that Originates in Georgia



Source: STB Waybill Sample

Figure 1-53: 2017 Freight Rail Tonnage Originating State for Freight that Terminates in Georgia



Source: STB Waybill Sample

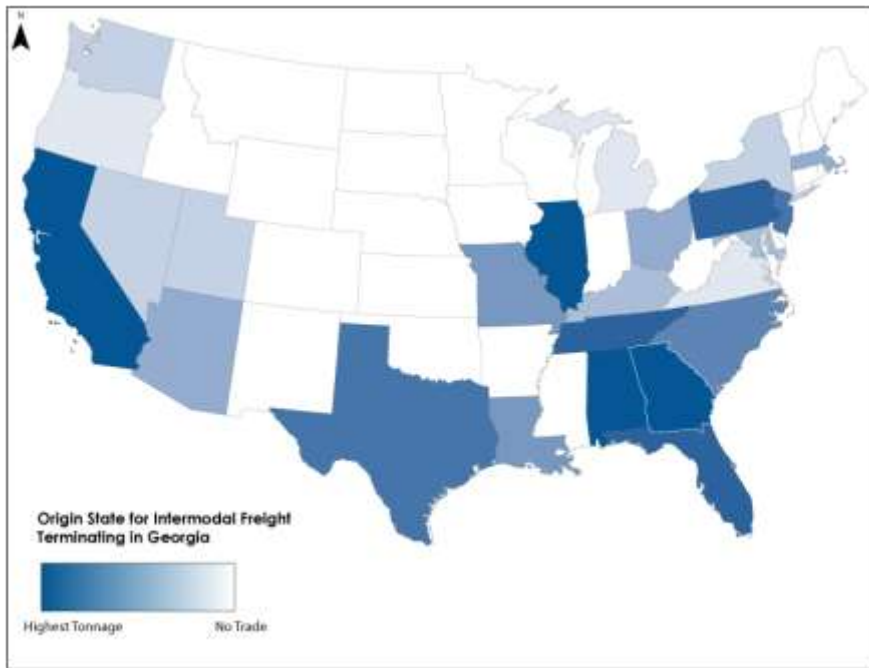
Geography of Intermodal Rail Traffic

Because intermodal is a key commodity shipped by rail both to and from Georgia, it is useful to examine the origins and destinations of this traffic. **Figure 1-54** illustrates freight rail tonnage by state of origin for shipments terminating in Georgia. **Figure 1-55** illustrates freight rail tonnage by state of destination for shipments originating from Georgia.

As with rail freight traffic in general, Georgia is its own largest intermodal trading partner, with the greatest volume moving between Savannah and the Atlanta metropolitan areas. The Atlanta metropolitan area is Georgia's largest intermodal freight market, accounting for over three quarters of the state's terminating intermodal traffic and over two thirds of the state's originating intermodal traffic. Much of the remaining intermodal traffic originates or terminates in Savannah. Significant origin-destination pairs are between Georgia and the West, and Georgia and the Midwest. Chicago serves as the largest gateway for Georgia intermodal traffic, and California is the largest western trading partner. Alabama is Georgia's second largest gateway after Illinois with ultimate origins/destinations further west than Alabama on the BNSF Railway system.

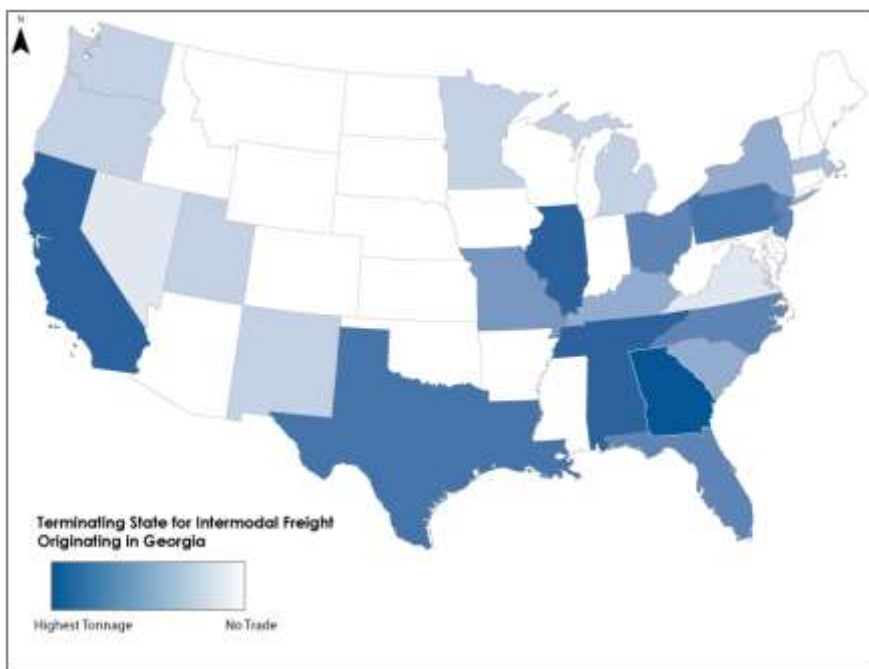


Figure 1-54: 2017 Freight Rail Tonnage Originating State for Intermodal Freight that Terminates in Georgia



Source: STB Waybill Sample

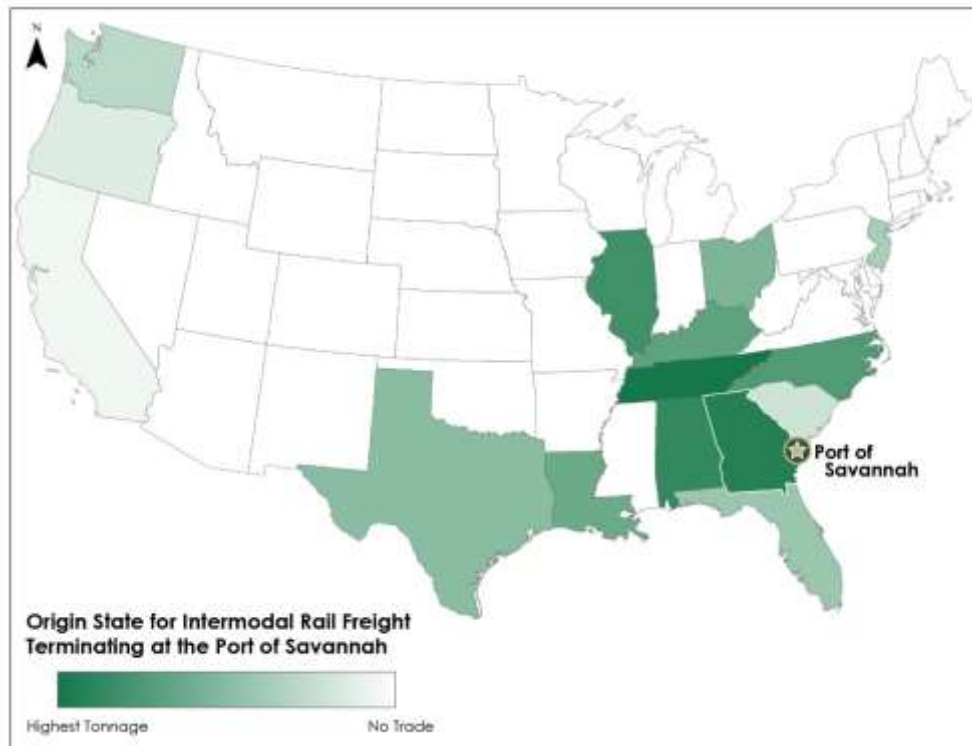
Figure 1-55: 2017 Freight Rail Tonnage by Terminating State for Intermodal Freight that Originates in Georgia



Source: STB Waybill Sample

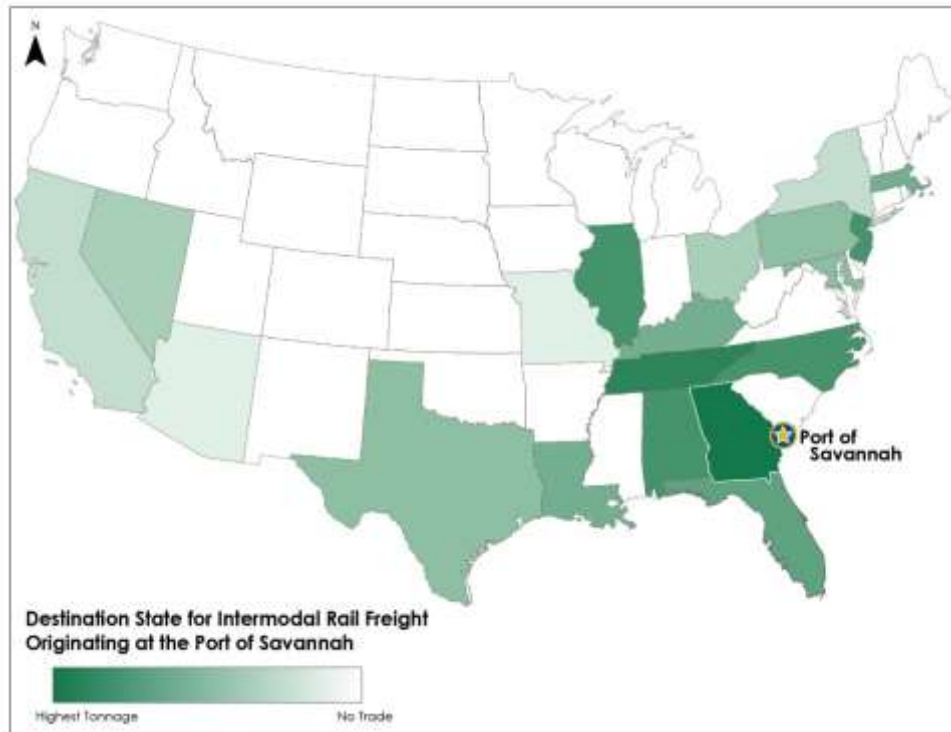
Looking specifically at intermodal freight to/from the Port of Savannah, the port receives and delivers freight from/to a broad hinterland by rail, including states not only in the Southeast, but also the Northeast, Midwest, and points beyond through gateways with western railroads in Tennessee, Alabama, and Illinois as shown in Figure 1-56 and Figure 1-57. Atlanta is by far the largest destination of rail shipments from the Port of Savannah shown in Figure 1-57, accounting for 45 percent of Savannah's outbound intermodal rail shipments. Atlanta is also an important origin for shipments to the Port of Savannah. Rail service at the Port of Savannah is important to congestion on I-16 and I-75, since it removes over 1.5 million truck trips per year that otherwise would have traveled this corridor between Savannah and Atlanta.

Figure 1-56: 2017 Freight Rail Tonnage Originating State for Intermodal Freight that Terminates at the Port of Savannah



Source: STB Waybill Sample

Figure 1-57: 2017 Freight Rail Tonnage by Terminating State for Intermodal Freight that Originates at the Port of Savannah



Source: STB Waybill Sample

Historical Trends in Georgia Freight Rail Traffic

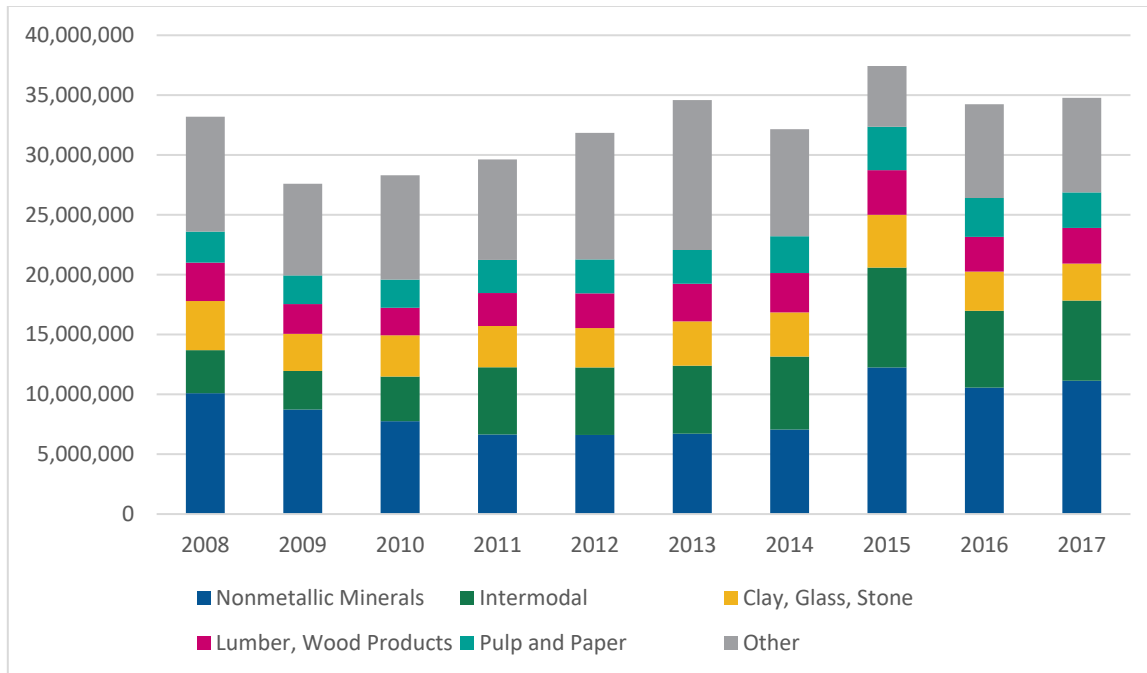
Freight rail can be measured by tonnage, which assesses shipments by weight, or by loaded cars (referred to as “carloads”) and intermodal containers and trailers (collectively referred to as “units”), which assesses shipments by count. This section looks at historical freight rail trends first by tonnage and then by carloads/units. A note on these measurements: Whereas coal can be measured by either ton or carload, intermodal traffic is measured by ton or by unit, rather than by carload, because intermodal flatcars are configured to carry two to ten containers. Since a carload cannot be distinctly defined for intermodal, a count of containers or trailers is a more precise measure of intermodal activity.

Tonnage

Figure 1-58 illustrates the change in freight rail tonnage originating in Georgia from 2008 to 2017. Overall, the volume of freight rail tonnage originating³⁸ in Georgia declined in the years following the recession that occurred in the 2008/2009 time period, but has since increased. Recovery has been driven by increases in intermodal and nonmetallic mineral traffic.

Figure 1-58: 2008 - 2017 Freight Rail Tons Originating in Georgia

³⁸“Originating” refers to rail traffic that originates in Georgia whether it terminates within or out of Georgia.

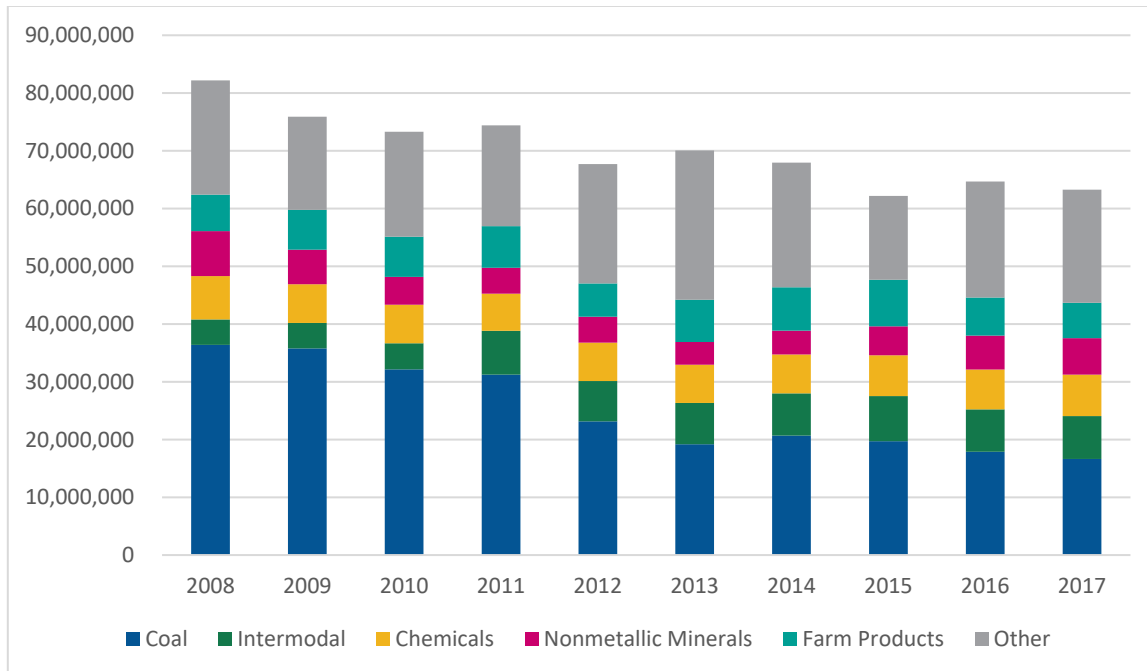


Source: STB Waybill Samples, AAR Georgia Rail Profiles

Figure 1-59 illustrates the change in freight rail tonnage terminating³⁹ in Georgia from 2008 to 2017. Rail freight tonnage terminating in Georgia declined during this period, primarily driven by a decline in coal shipments, which dropped by 54 percent. In 2008, coal represented 44 percent of the freight rail tonnage terminating in the state, while in 2017 it was 26 percent.

Figure 1-59: 2008 - 2017 Freight Rail Tons Terminating in Georgia

³⁹ "Terminating" refers to rail traffic that terminates in Georgia whether it originates within or out of Georgia.



Source: STB Waybill Samples, AAR State Georgia Rail Profiles

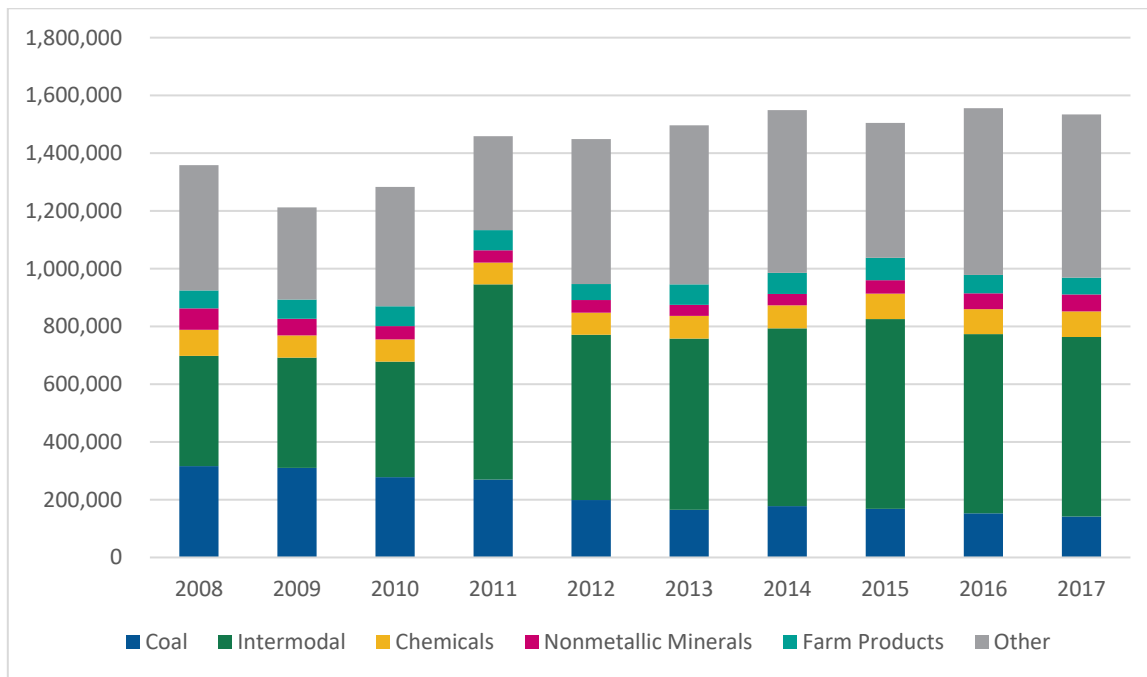
Carloads/Units

Reviewing trends by carloads/units allows for a different perspective on what appears to be a decline in rail traffic when viewed in terms of tonnage (i.e., by weight). Because the typical coal car carries 117 tons of coal, while the average intermodal unit carries 12 tons of freight, an increase of roughly ten units of intermodal rail traffic are required to offset a decline of one coal car. During the 2008 to 2017 period, coal tonnage fell at a far greater rate than intermodal tonnage grew; however, intermodal units grew at a greater rate than coal carloads fell.

Figure 1-60 illustrates freight rail terminating in Georgia by number of carloads/units, and **Figure 1-61** illustrates freight rail originating in Georgia in carloads/units. By this measure, terminating and originating traffic each grew between 2008 and 2017, with terminating carloads/units increasing by 13 percent over the period and originating carloads/units increasing by 44 percent. This growth was driven by intermodal traffic, which increased 63 percent during this period for shipments terminating in Georgia and 84 percent for originating shipments. Increases in intermodal traffic may increase rail traffic congestion; because intermodal traffic weighs less than coal railroads may meet increased demand by using longer trains because they have less weight limitations on the infrastructure.

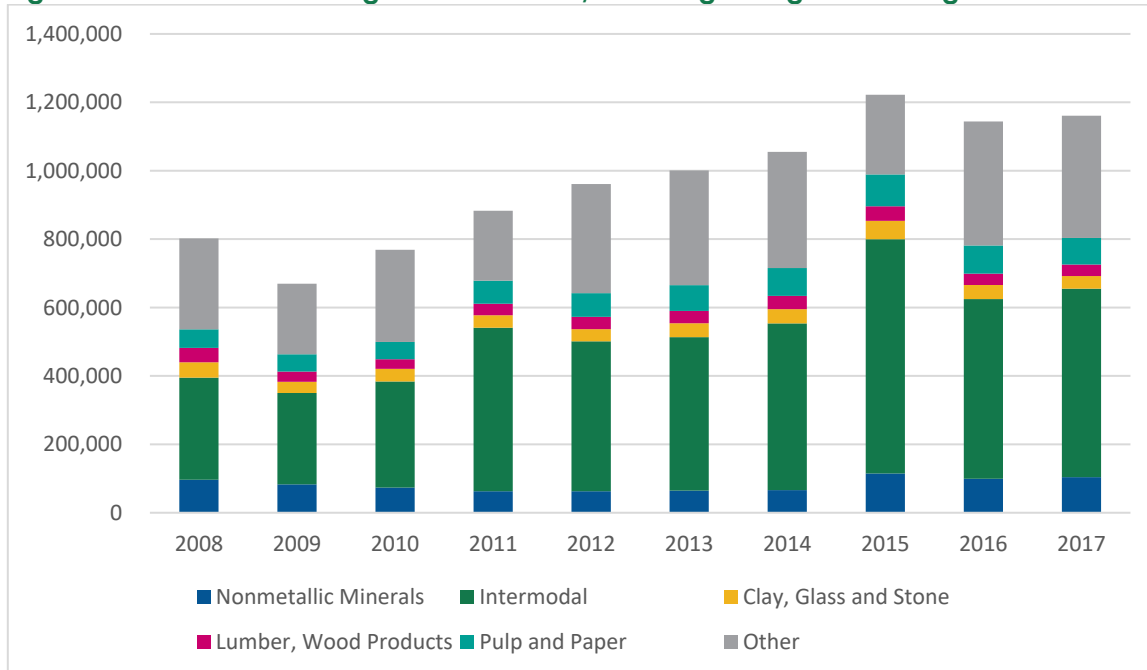


Figure 1-60: 2008 – 2017 Freight Rail Carloads/Units Terminating in Georgia



Source: STB Waybill Sample, AAR Georgia Rail Profiles

Figure 1-61: 2008 - 2017 Freight Rail Carloads/Units Originating from Georgia



Source: STB Waybill Samples, AAR Georgia Rail Profiles



Freight Rail Forecasts for Top Georgia Commodities

This section provides details on the flows of several top commodities shipped by rail to and from Georgia and presents rail shipment forecasts for major freight rail commodities through 2045. Projections were developed based on identified trends in the FAF-4 data and supplemented with other data sources as appropriate to understand the movement of the top commodities through Georgia.

Coal

As described above, coal volumes shipped by rail to Georgia declined by 54 percent between 2008 and 2017. Power production in Georgia has been shifting away from coal as a fuel for the past two decades. **Table 1-41** lists the 2019 status of rail-served coal-fired power plants that were in service in Georgia historically (e.g, within the past 30 years).. Of these, only three continue to operate as coal-fired power plants, while the others have been decommissioned or converted to natural gas.

Table 1-41: Status of Georgia Rail-Served Coal-Fired Power Plants

Power Plant	Status	Location
Arkwright	Idle since 2002, due to be dismantled	Macon, Bibb County
McDonough-Atkinson	Converted to natural gas 2013	Smyrna, Cobb County
Yates	Converted to natural gas 2015	Newnan, Coweta County
Kraft	Closed 2015	Savannah, Chatham County
Mitchell	Closed 2015	Albany, Dougherty County
Harlee Branch	Closed 2016	Eatonton, Putnam County
Hammond	Closed 2019	Rome, Floyd County
McIntosh	Coal unit converting to natural gas 2019	Rincon, Effingham County
Bowen	Still burns coal	Euharlee, Bartow County
Wansley	Still burns coal	Carrollton, Heard County
Scherer	Still burns coal	Juliette, Monroe County

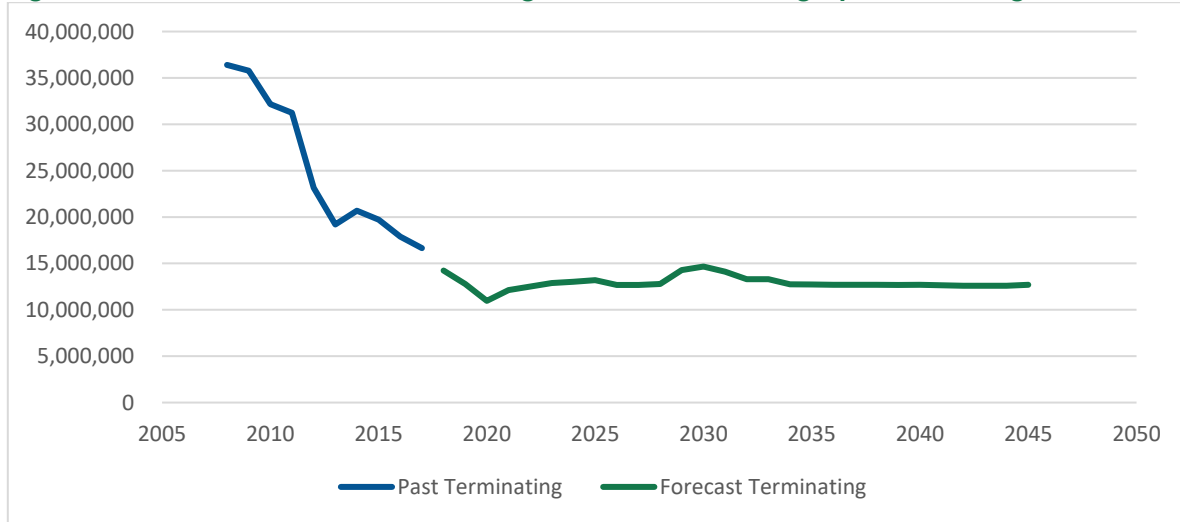
Source: BNSF 1998 Energy Map

Figure 1-62 presents past trends and an estimated forecast for future coal shipments to Georgia. The forecast is based on U.S. Energy Information Administration (EIA) projections. Coal shipments to Georgia are forecast to reach a low point in 2020, rebound somewhat in 2021 through 2030, and then plateau through 2045. The EIA considers this “Flat Line” scenario as likely assuming that the less efficient plants have been retired and the more economically viable plants are left in service. Future coal shipments to Georgia may vary from the estimated forecasts based on unforeseeable



changes in the relative economics of energy sources and environmental regulations. For example, additional environmental regulations in the future could cause coal volumes to decline further.

Figure 1-62: Historic and Forecast Tonnage of Coal Terminating by Rail in Georgia

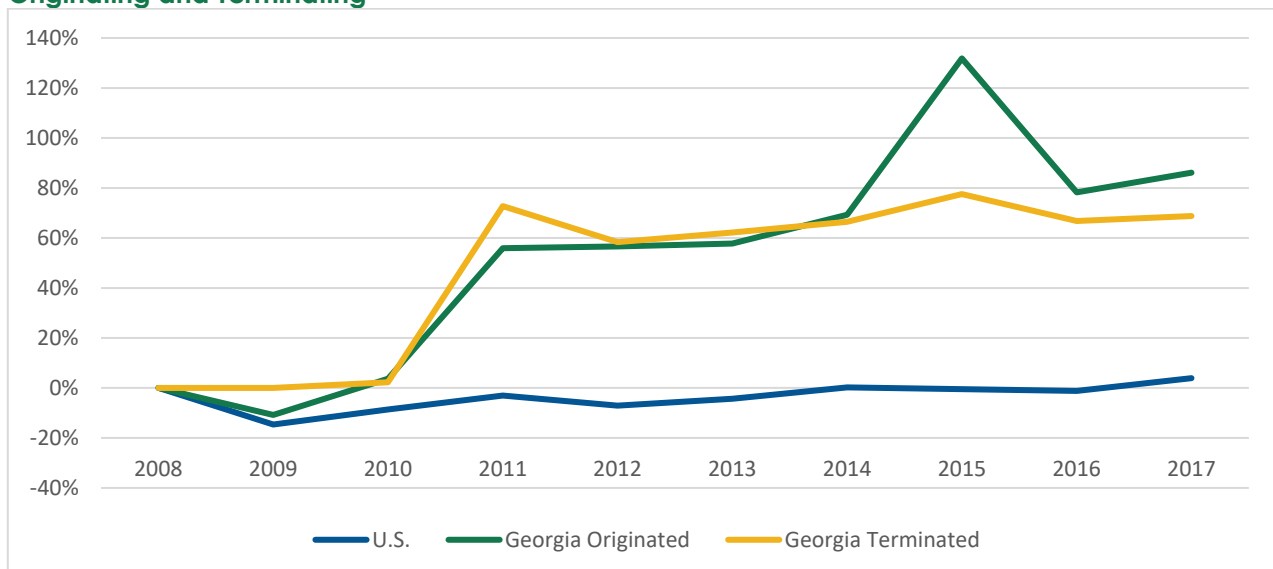


Source: STB Waybill Samples, AAR Georgia Rail Profiles, EIA Annual Energy Outlook

Intermodal

Figure 1-63 compares the percentage change in intermodal traffic between 2008 and 2017 for the overall U.S. and Georgia originating and terminating tonnage. Intermodal tonnage terminating in Georgia increased 69 percent from 2008 to 2017, and intermodal tonnage originating in Georgia increased 86 percent. Georgia's growth in intermodal traffic exceeds national increases during the same period.

Figure 1-63: Percentage Change in Intermodal Rail Tonnage – Overall U.S. Compared to Georgia Originating and Terminating



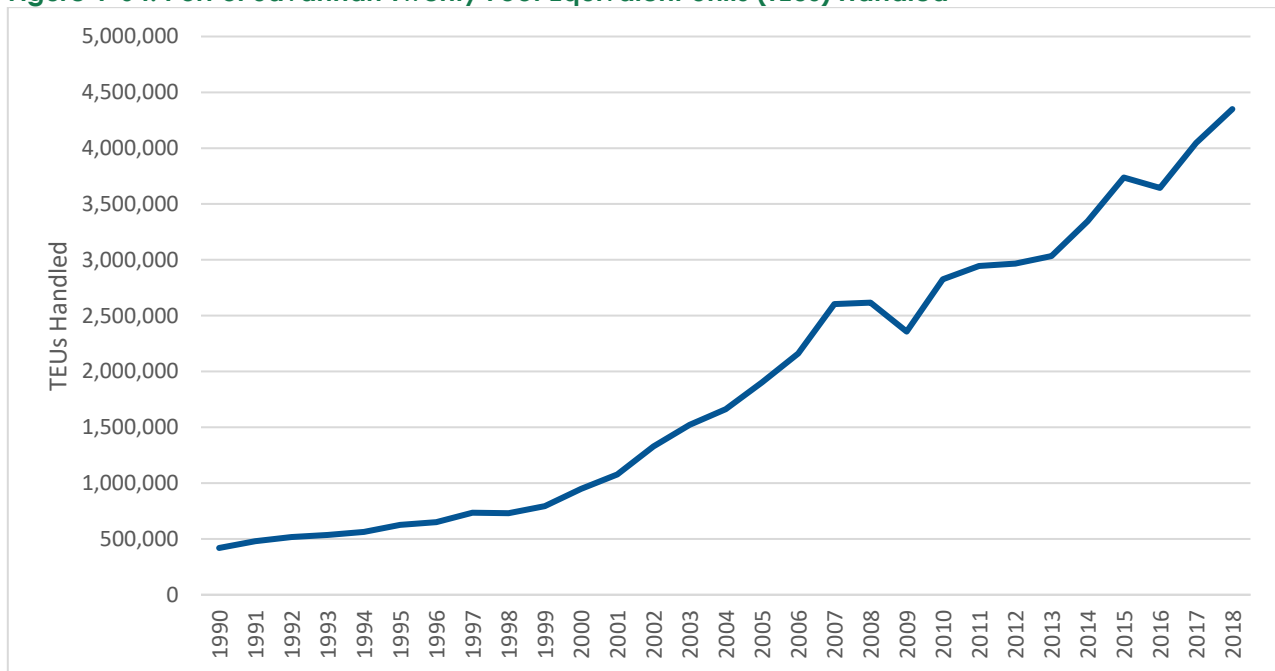
Source: STB Waybill Sample, AAR Georgia Rail Profiles, AAR Ten Year Trends



The growth of intermodal trade at the Port of Savannah has been a major factor in the increase in intermodal rail traffic in the state.

Figure 1-64 illustrates the number of twenty-foot equivalent units (TEUs)⁴⁰ handled by the Port of Savannah from 1990 to 2018. As can be seen in this figure, intermodal traffic at the port has been growing for decades, with the number of (TEUs) passing through the port increasing by two thirds between 2008 and 2017.

Figure 1-64: Port of Savannah Twenty Foot Equivalent Units (TEUs) Handled



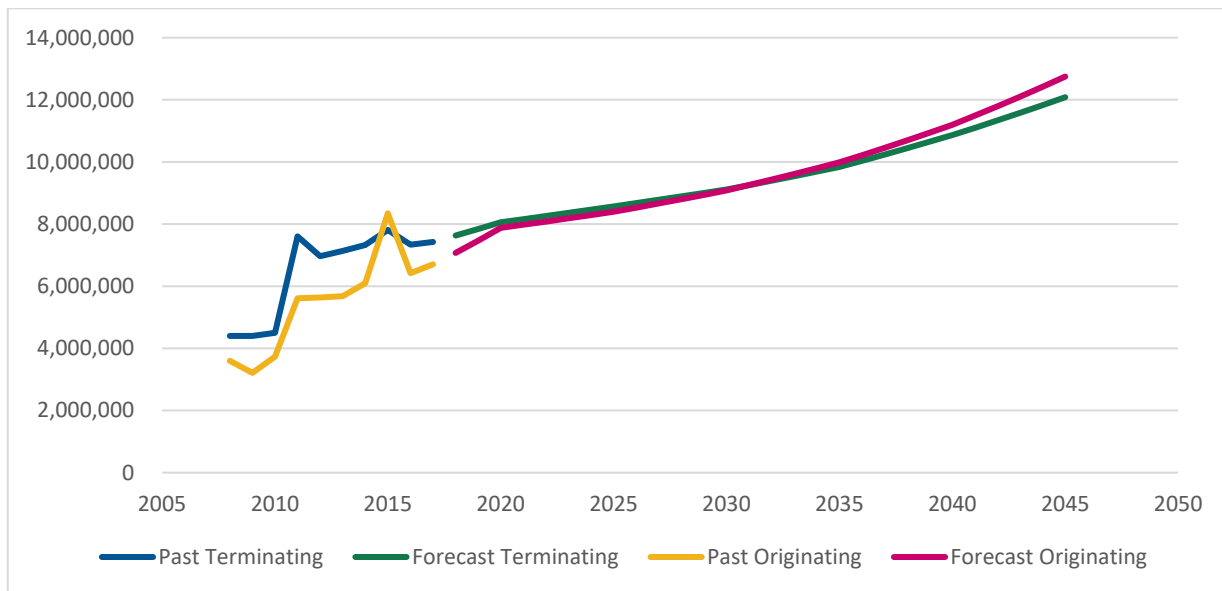
Source: Association of American Port Authorities

Figure 1-65 presents past trends and forecast for intermodal rail traffic. The projections rely on a forecast of mixed shipments to and from Georgia from FAF-4. It is projected that intermodal rail traffic will increase both terminating and originating shipments, to 12 million tons in 2045. The forecasts represent a 2.3 percent annual increase for originating traffic and a 1.8 percent annual increase for terminating traffic. Georgia's originating intermodal traffic grew by seven percent for originating traffic and six percent for terminating traffic between 2008 and 2017.

⁴⁰ Most international shipping containers are either 20 or 40 feet long. To express the container throughput of a port, the number of containers is converted to the smallest size, i.e. 20 feet, so that a 40-foot container equals two twenty-foot containers. This way, the total volume handled will be measured consistently regardless of the size of containers.



Figure 1-65: Past and Forecast Georgia Originating and Terminating Intermodal Tonnage



Source: STB Waybill Sample, AAR Georgia Rail Profiles, FAF-4

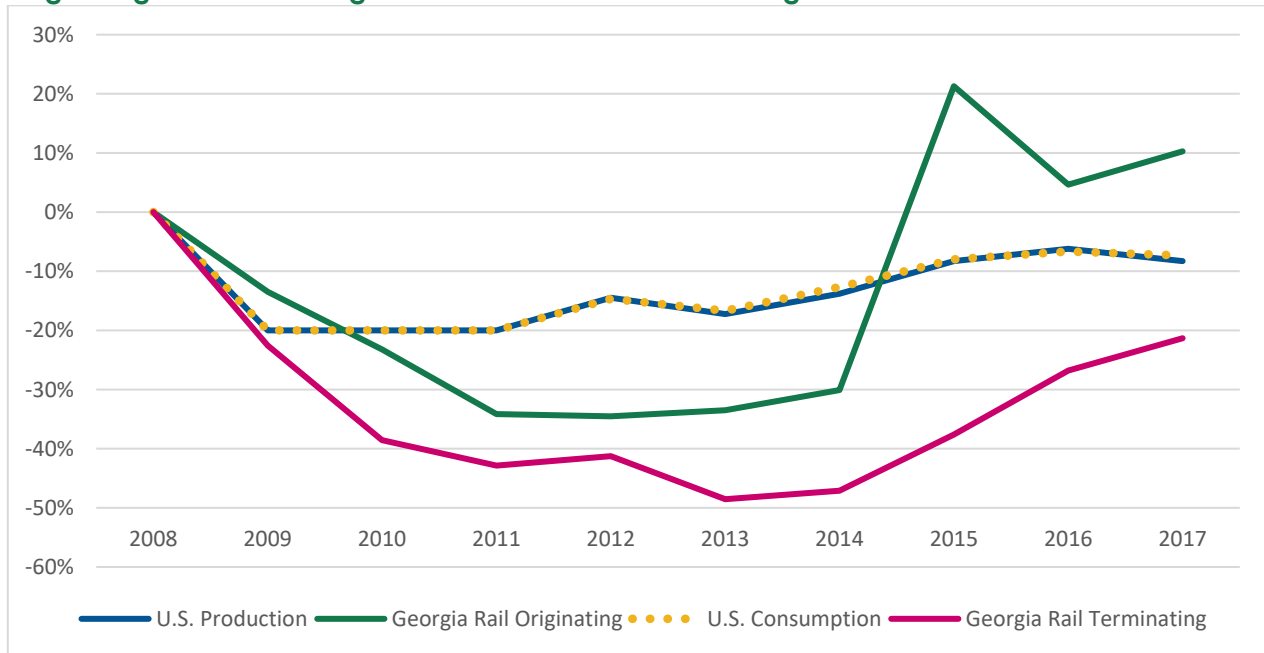
Non-Metallic Minerals

Rail shipments of non-metallic minerals tend to follow trends in the construction market. The volume shipped and received in Georgia declined following the Great Recession. Originating tonnage declined until 2013 but then increased so that the total change in tonnage between 2008 and 2017 was a 10 percent increase. By contrast, terminating rail shipments of non-metallic minerals in Georgia have not yet recovered to 2008 levels and declined by 21 percent between 2008 and 2017. Most of the tonnage of non-metallic minerals shipped to and from Georgia consists of crushed stone.

Figure 1-66 compares the percentage change in non-metallic mineral rail shipments to and from Georgia between 2008 and 2017 to national trends in crushed stone production. Crushed stone is by far the largest sub category of non-metallic minerals. As can be seen from this figure, shipments of non-metallic minerals by rail in Georgia have varied more widely than overall U.S. crushed stone production and consumption, dropping more rapidly following the recession and recovering more rapidly, at least in terms of originating shipments.



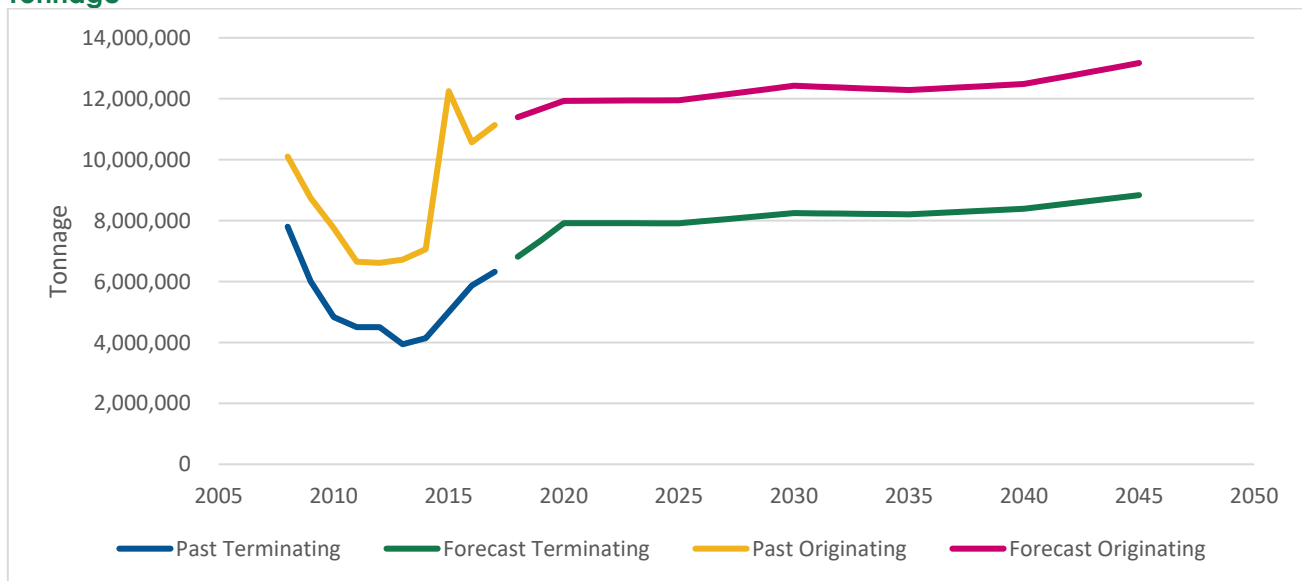
Figure 1-66: Percentage Change in U.S. Crushed Stone Production Tonnage and Georgia Originating and Terminating Non-Metallic Mineral Rail Tonnage



Source: STB Waybill Sample, AAR Georgia Rail Profiles, U.S. Geological Survey

Figure 1-67 illustrates the historical changes in originating and terminating rail shipments of non-metallic minerals to and from Georgia alongside the projected changes through 2045. The projected rate of change is taken from FAF-4, which predicts that the strong recovery in non-metallic mineral volumes will continue through 2020 and then grow more slowly afterward.

Figure 1-67: Past and Forecast Georgia Originating and Terminating Rail Non-Metallic Mineral Tonnage



Source: STB Waybill Sample, AAR Georgia Rail Profiles, FAF-4



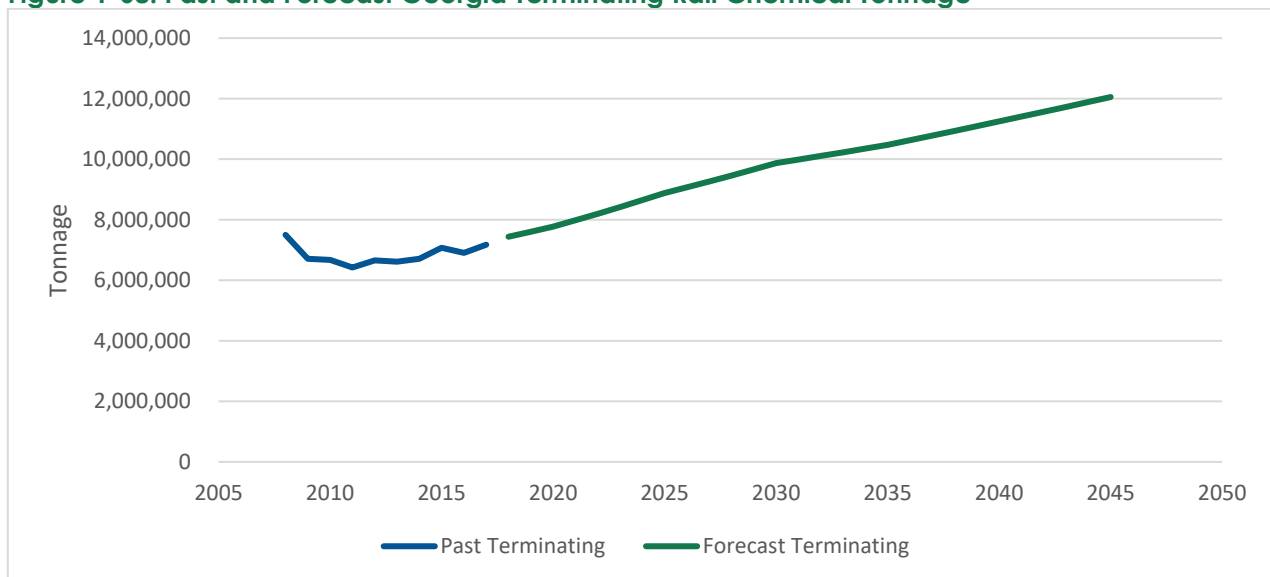
Chemicals

Chemicals represent the third highest rail commodity by tonnage terminating in Georgia. A wide variety of chemical products are transported into the state by rail. Ethanol is the largest category, accounting for 23 percent of chemical shipments terminating in Georgia. Chemicals are delivered by rail to locations throughout Georgia with no one county being the main destination. Over half of chemical shipments to Georgia by rail are either from Louisiana or Illinois. Most shipments from Louisiana are petrochemicals, whereas most shipments from Illinois are ethanol, shipments of which pass through Illinois after originating on western railroads.

Figure 1-68 illustrates the historical change in chemical shipments terminating in Georgia from 2008 to 2017, and the projected future change through 2045. Chemical shipments by rail declined following the recession and have not entirely recovered, as the 2017 tonnage was 4 percent below the 2008 tonnage. Terminating rail shipments of chemicals to Georgia are forecast to increase to 12 million tons by 2045.

The American Chemistry Council estimates that U.S. chemical production rose 3.8 percent in 2018 and would grow 2.2 percent in 2019. These growth rates are used to estimate growth in chemical shipments by rail to Georgia, with the 2.2 percent growth rate assumed to continue through 2020. The U.S. chemical industry saw increased production and investment in 2018 and 2019 due to developments in shale energy exploration. Shale development has reduced the energy costs for chemical manufacturing and increased the availability of chemical feedstocks such as natural gas liquids. Assumptions for the rate of growth for years after 2020 taken from the FAF-4 database.

Figure 1-68: Past and Forecast Georgia Terminating Rail Chemical Tonnage



Source: STB Waybill Sample, AAR Georgia Rail Profiles, American Chemistry Council, FAF-4

Farm Products

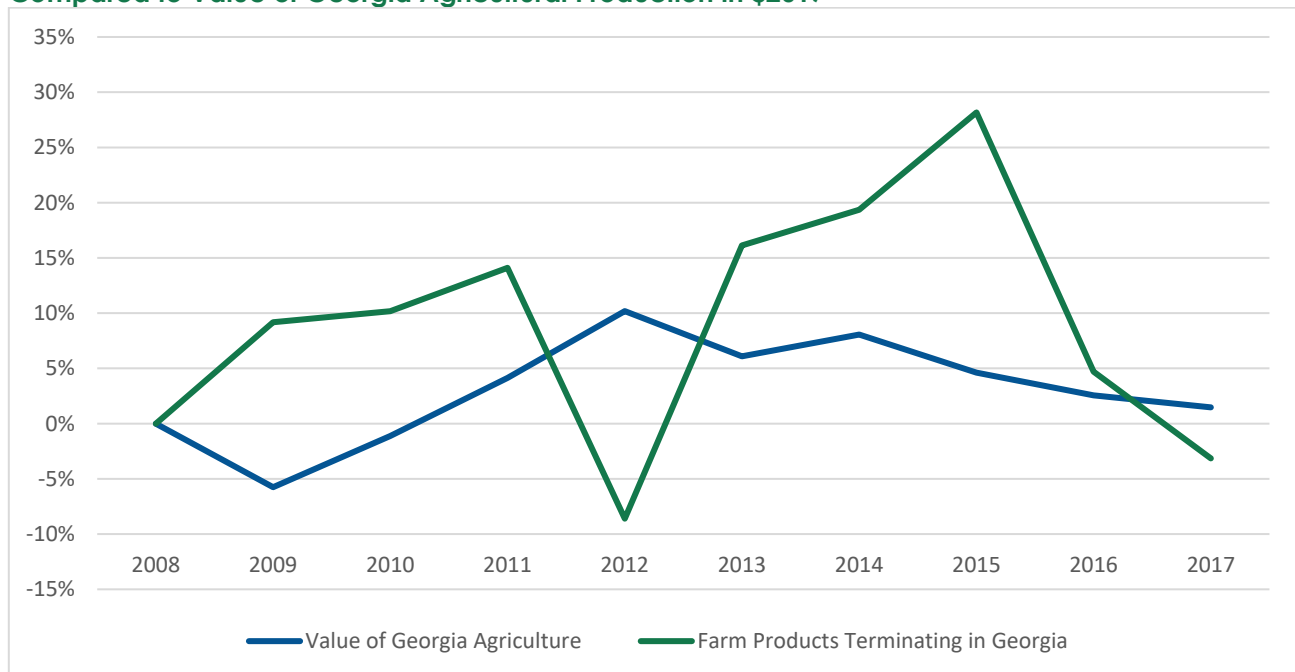
Per **Table 1-40**, 6,092,742 tons of farm products were shipped to Georgia by rail in 2017. Corn makes up 63 percent of these farm products and soybeans make up another 25 percent. Much of the corn and soybeans shipped by rail to Georgia are used for animal feed or food production.



Georgia is the nation's top producer of broilers (chickens) supplying over 15 percent of the national production.⁴¹ Georgia is also the nation's leading producer of eggs. Georgia's poultry production is concentrated in the northern part of the state. Georgia farmers also raise dairy cattle, beef cattle, and swine. Sixty-two percent of farm products shipped by rail to Georgia originate in Indiana or Illinois.

The volume of farm products that terminated in Georgia fluctuated between 2008 and 2017, which is likely due to market conditions in the agricultural and rail markets. Inbound rail shipments of farm products have varied much more than has Georgia's agricultural output, as shown in **Figure 1-69**.

Figure 1-69: Percentage Change in Rail Tonnage of Farm Products Terminating in Georgia Compared to Value of Georgia Agricultural Production in \$2017⁴²



Source: STB Waybill Samples, AAR Georgia Rail Profiles, University of Georgia Farmgate Value Reports adjusted to real dollars with U.S. BEA GDP IPD

Figure 1-70 presents historical growth in Georgia-terminating rail tonnage of farm products from 2008 to 2017, and then the projected change from 2018 through 2045. The forecast considers data regarding poultry and livestock production from the University of Georgia, which suggest a steady increase in demand for grain shipments to Georgia in the short term,⁴³ as well as longer term forecasts from FAF-4 that suggest a continued trend of gradual growth of farm products shipped by rail to Georgia.

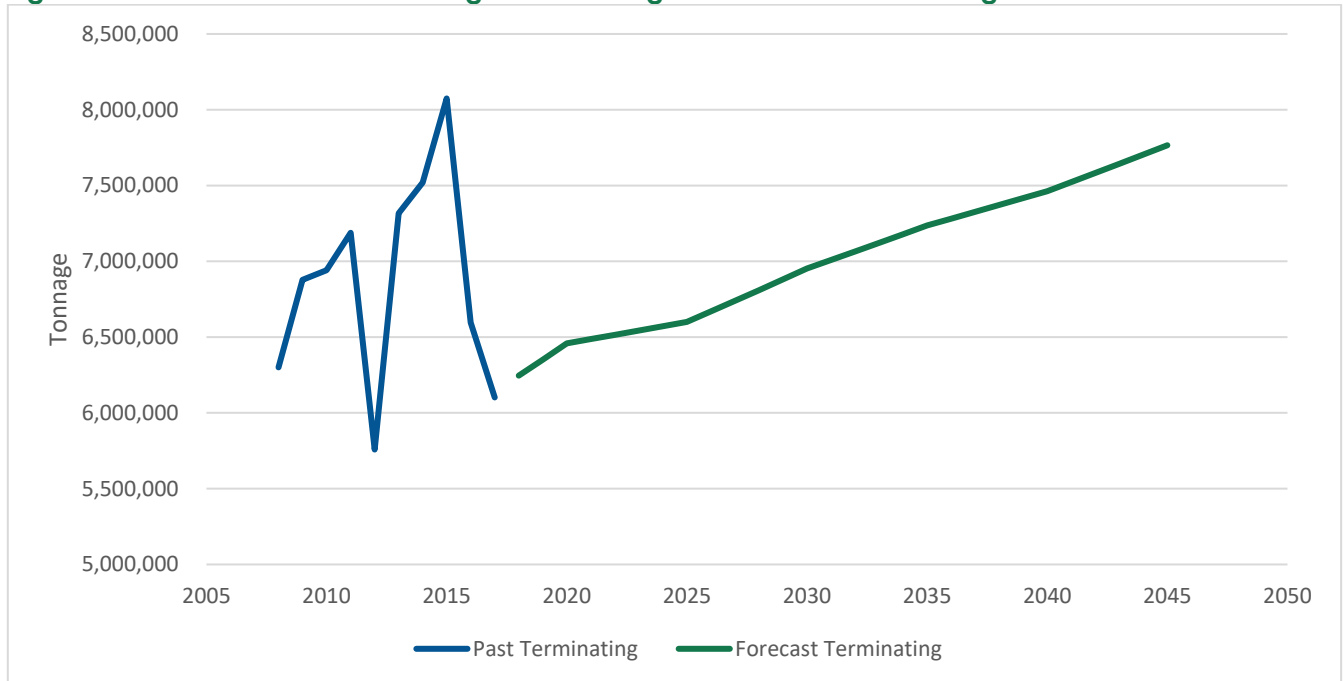
⁴¹ U.S. Department of Agriculture, "Poultry – Production and Value 2018 Summary", May 2019.

⁴² Value of Georgia agriculture from the University of Georgia College of Agriculture and Environmental Sciences Georgia Farm Gate Value Reports.

⁴³ University of Georgia, 2019 Ag Forecast Situation and Outlook Reports.



Figure 1-70: Past and Forecast Georgia Terminating Rail Farm Product Tonnage



Source: STB Waybill Sample, AAR Georgia Rail Profiles, FAF-4, University of Georgia

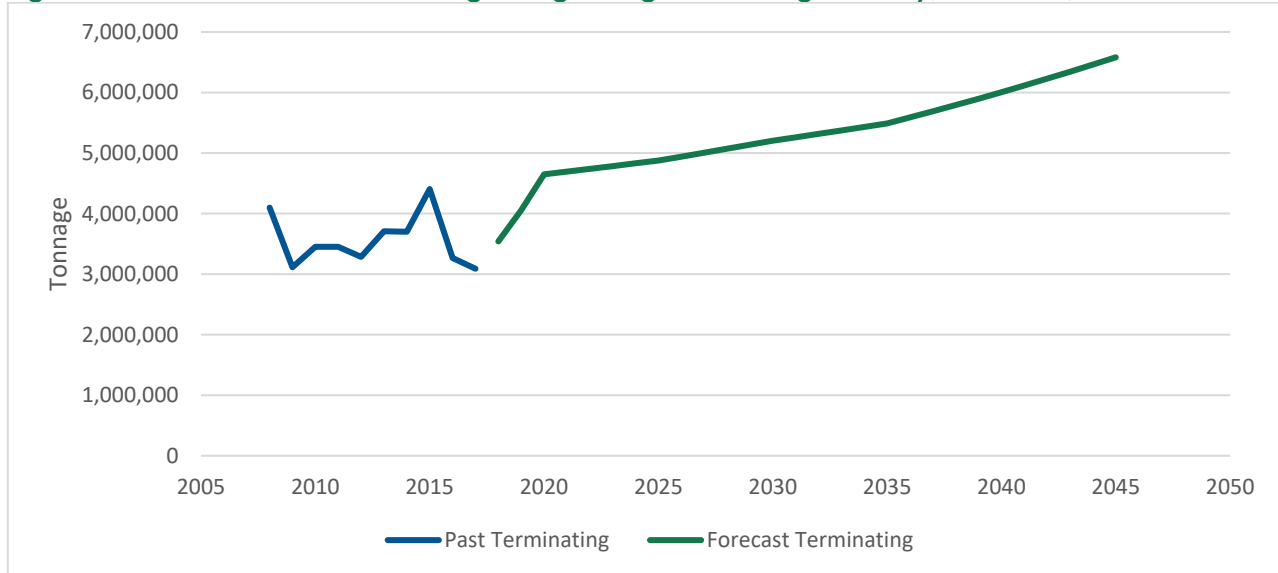
Clay, Concrete, Glass and Stone

Figure 1-71 presents the past and forecast rail tonnage of Clay, Concrete, Glass and Stone originating in Georgia. Kaolin clay accounts for 69 percent of outbound rail shipments from Georgia in this category. Much of the extraction of kaolin occurs along a corridor that crosses Georgia between Augusta, Macon, and the Alabama border near Columbus, the “fall line.” Kaolin is used for fillings and coatings, for paper production, paint, ceramics, plastics, and other products. Kaolin is shipped by rail to a variety of destinations, although Georgia is its own largest destination of originating shipments. A significant portion of Georgia kaolin production is exported, and kaolin is about 10 percent of the exports that move through the Port of Savannah. Rail shipments of clay, concrete, glass, and stone from Georgia peaked in 2015 but declined through 2017.

Clay, concrete, glass and stone are projected to grow to nearly 7 million tons by 2045. Projections are derived from FAF-4 forecasts, which indicate a rapid increase in clay, concrete, glass and stone shipments from Georgia through 2020 based on estimated growth of the underlying industries. Strong growth through 2020 is expected to be followed by a period of more moderate growth in the long-term.



Figure 1-71: Past and Forecast Georgia Originating Rail Tonnage of Clay, Concrete, Glass and Stone



STB Waybill Sample, AAR Georgia Rail Profiles, FAF-4

Forest Products

According to the Georgia Forestry Association⁴⁴, the state is:

- The top state in terms of annual timber harvested, with 9 percent of the U.S. total
- The leading exporter of pulp, paper, and paperboard mill products, accounting for 21 percent of all U.S. exports of pulp and paper
- The top state in exporter of wood fuel including chips and pellets
- The top state exporter of wood pellets accounting for 26 percent of U.S. total exports

Rail is an important transportation mode in supporting this economic sector. In 2017, 73 percent of rail shipments classified as lumber or wood products were primary wood products that had undergone minimal processing, such as pulp wood (used for paper), fuelwood, or wood chips. Finished lumber products were 11 percent of Georgia's originating wood product rail shipments. Of Georgia's wood or lumber products, 70 percent were shipped within the state, 28 percent of which was shipped to Chatham County (Port of Savannah). Wood products were 14 percent of the exports shipped from Savannah.⁴⁵

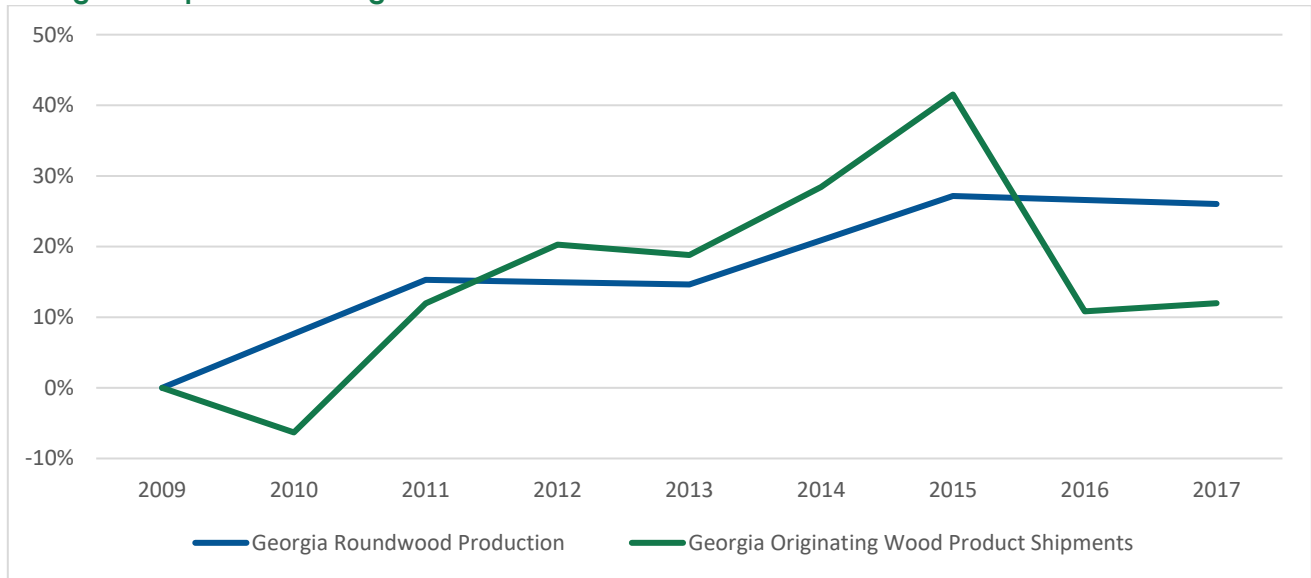
Figure 1-72 compares the change in rail tonnage of wood or timber products originating in Georgia with Georgia roundwood (timber) production from 2008 to 2017. Rail shipments of wood products from Georgia increased with overall growth in Georgia's wood production through 2015, but then declined between 2015 and 2017, whereas Georgia's roundwood production remained at nearly the same level from 2009 to 2017.

⁴⁴ Georgia Forestry Association, "How Does Forestry Impact Georgia?," <https://gfagrow.org/about/numberone/>.

⁴⁵ U.S. Army Corps of Engineers, Institute for Water Resources, 2017 data.



Figure 1-72: Percentage Change in Rail Tonnage of Wood or Lumber Products Originating from Georgia Compared to Georgia Roundwood Production⁴⁶



Source: STB Waybill Sample, AAR Georgia Rail Profiles, Forest Service

Figure 1-73 presents the past and forecast rail tonnage of wood and lumber products originating in Georgia. A projected four million tons of wood and lumber products originating in Georgia will be shipped by freight rail in 2045, slightly more than was shipped during the previous peak year for wood and lumber shipments from Georgia.

Projected tonnage is based on FAF-4 and U.S. Forest Service data. FAF-4 predicts a rapid increase in rail shipments of lumber or wood products through 2020, followed by slower growth until 2030 and then a decrease in volume. Forecasts by the U.S. Forest service predicts that overall southern timber production will grow more slowly than rail shipments over time, increasing by 10 percent between 2015 and 2045.⁴⁷ Demand for wood products has fallen in recent decades due to the substitution of electronic media for paper media, while more frequent recycling decreased the need for new pulpwood. Plastic products have substituted for wood building materials. While this trend may continue, it could reverse itself with wood fiber substituting for products currently made from other materials. By separating wood into its chemical components, new technologies could create biofuels, bio chemicals and bio materials as alternatives to petroleum-based products.⁴⁸ Mass timber allows wood to be used for structural building components and compete with concrete or steel.

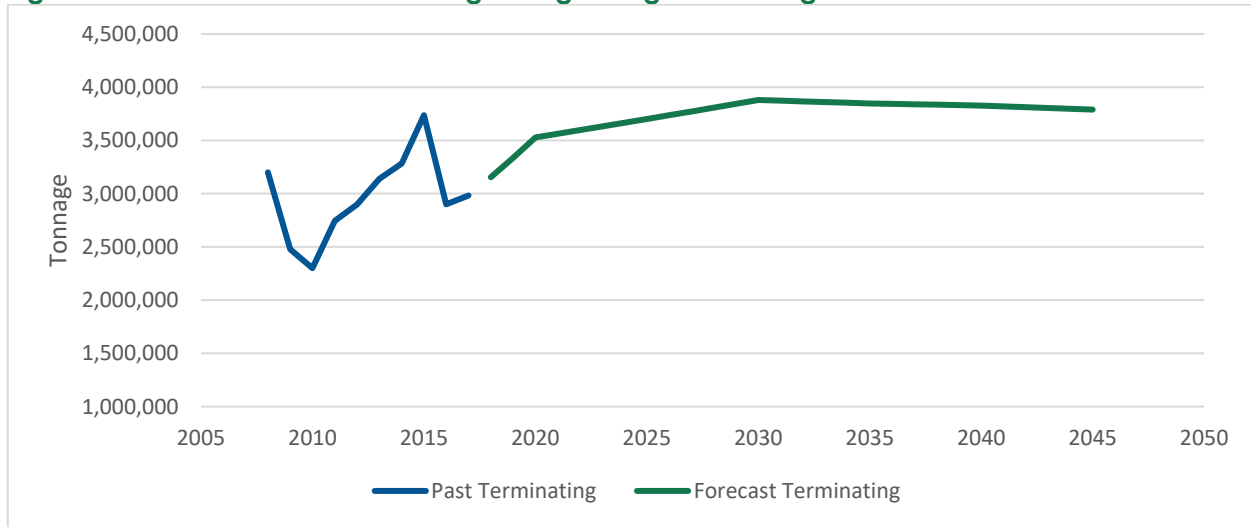
⁴⁶ USDA Forest Service, Forest Inventory and Analysis, <https://public.tableau.com/views/FIATPOOneClickBETA/StateSelection?%3AshowVizHome=no#5>.

⁴⁷ USDA Forest Service, Southern Forest Futures Project, 2011. <https://www.srs.fs.usda.gov/futures/index.html>.

⁴⁸ Jim Damicis of Camion Associates, "Recent and Emerging Trends in Forestry and Lumber," July 29, 2019.



Figure 1-73: Past and Forecast Georgia-Originating Rail Tonnage of Wood and Lumber Products

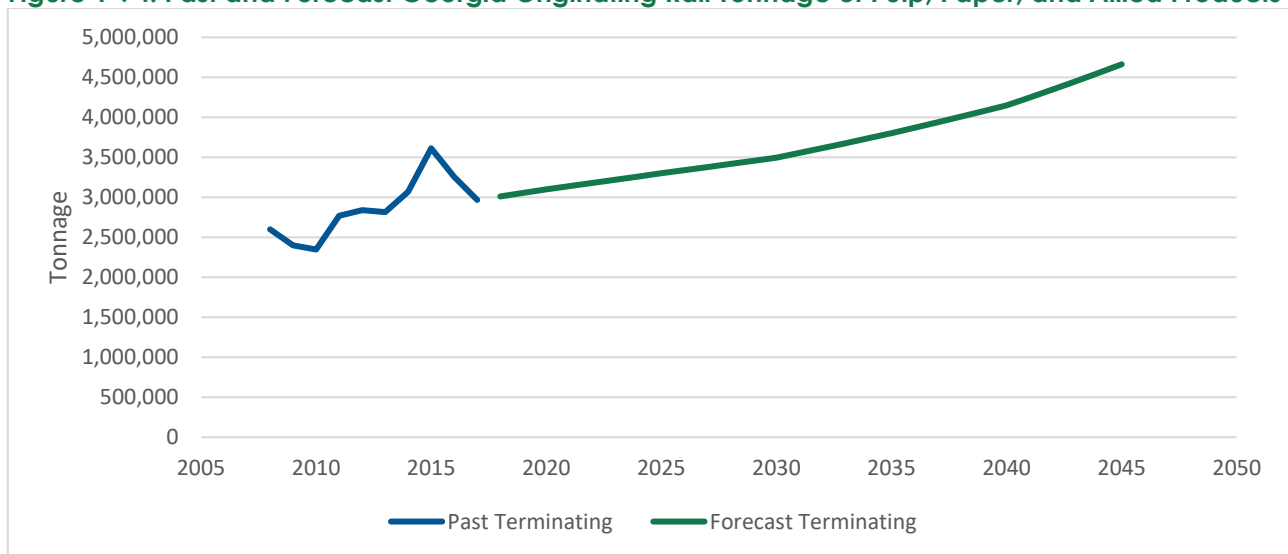


Source: STB Waybill Sample, AAR Georgia Rail Profiles, FAF-4

Approximately two thirds of the tonnage of pulp, paper or allied products from Georgia by rail consists of fiberboard, an engineered wood product used in construction. **Figure 1-74** presents the past and forecast rail tonnage of pulp, paper and allied products, like fiberboard, originating in Georgia. It is projected that five million tons of fiberboard and other pulp and paper product rail shipments will originate from Georgia in 2045.

As rail shipments of these products from Georgia increased by an average of about 1.5 percent per year between 2008 and 2017, the projected rate of growth assumes the 1.5 percent historical growth rate for shipments between 2017 and 2020. The growth estimates from FAF-4 are used for estimates for 2020 onward.

Figure 1-74: Past and Forecast Georgia Originating Rail Tonnage of Pulp, Paper, and Allied Products



Source: STB Waybill Sample, AAR Georgia Rail Profiles, FAF-4



In conclusion, the coal tonnage shipped to Georgia is expected to decline overall through 2050, while intermodal activity originating or terminating in Georgia is projected to continue to increase. Also, through 2050, non-metallic mineral (crushed stone) rail shipments to and from Georgia are projected to remain level, while chemical shipments to Georgia are projected to increase slightly, as are shipments of clay, glass, concrete and stone originating in Georgia. Rail shipments of forest products originating in Georgia are projected to remain level, while those shipments terminating in Georgia are projected to increase.

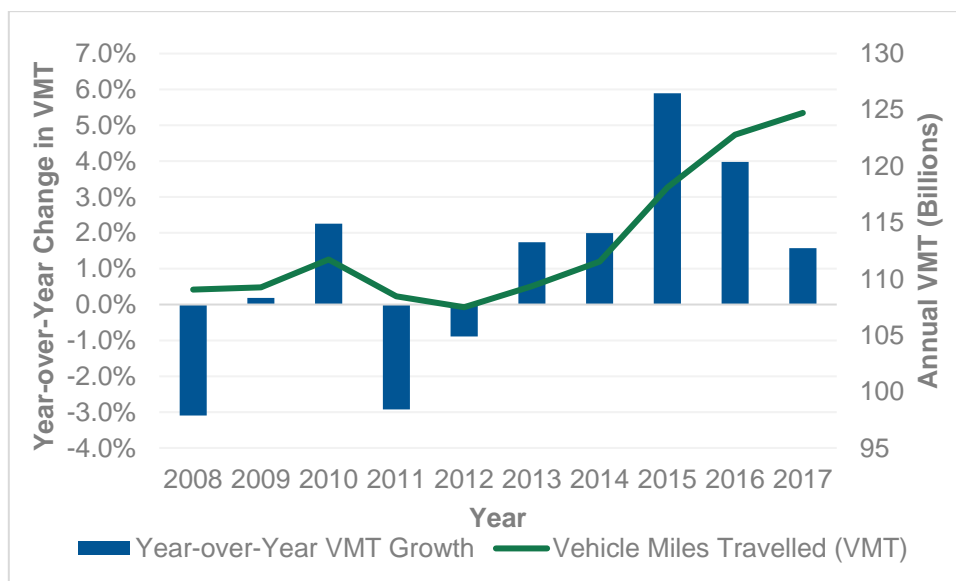
1.2.3. Passenger Travel Demand and Growth

This section presents passenger travel demand and projected growth trends through 2050. Further detail about passenger rail and related plans and projects can be found in Chapter 3.

Travel Demand - Highways

As measured by vehicle miles traveled (VMT)⁴⁹, passenger demand for roadway travel in Georgia dipped in 2011 and 2012 (corresponding with the 10 year high point in fuel prices) but otherwise has grown since 2009. According to the FHWA, 124.7 billion vehicle miles were traveled in the state in 2017, a 16 percent increase from its low of 107.5 billion in 2012.⁵⁰ **Figure 1-75** displays annual VMT and year-over-year VMT changes in Georgia from 2008 to 2017.

Figure 1-75: Georgia Annual Vehicle Miles Travelled (VMT) and Year-Over-Year Change 2008 - 2017



Source: FHWA

Estimated changes in VMT between 2015 and 2050 were extracted from the Georgia statewide travel demand model as shown in **Table 1-42**. Total VMT is forecast to increase by 27 percent between 2015 and 2050 (compound annual growth of 0.69 percent per year). Freight travel

⁴⁹ VMT is defined as the total number of miles traveled in vehicles annually

⁵⁰ Federal Highway Administration, Office of Highway Policy Information, *U.S. Highway Statistics: Vehicle Miles Traveled*



demand growth (37.1 percent over the period) is expected to grow faster than passenger travel demand (26 percent) over the forecast period. **Table 1-42** below shows VMT for 2015 and 2050 by roadway by type and primary use per the National Highway Functional Classification (NHFC).

Table 1-42: Daily VMT (in thousands) by Functional Classification

Functional Classification	2015			2050			% Growth Total
	Passenger	Freight	Total	Passenger	Freight	Total	
Interstate	70,657	14,227	84,884	92,194	20,333	112,527	32.6%
Freeway/Expressway	7,379	500	7,879	9,687	730	10,416	32.2%
Principal Arterial	50,227	5,046	55,273	59,139	6,391	65,531	18.6%
Minor Arterial	46,532	2,622	49,154	58,657	3,309	61,966	26.1%
Major Collector	13,051	678	13,729	16,878	878	17,756	29.3%
Minor Collector	547	18	565	776	26	803	42.1%
Local	164	3	167	242	4	246	47.3%
Total	188,557	23,094	211,651	237,574	31,671	269,244	27.2%

Source: GDOT state travel demand forecasting model

Travel Demand – Intercity Rail

Amtrak projects ridership on their routes for in their Five-Year Service Line Plans. The average annual growth rate associated with the lines that serve Georgia is approximately one percent. This growth rate was used to project ridership by station and is estimated to increase from 141,000 to 199,574 passenger trips between 2018 and 2050 as shown in **Table 1-43** below. Factors that could otherwise influence the demand for intercity passenger rail include the quality of the service such as travel times, Amtrak schedules, service frequency, whether on-time performance improves or deteriorates, the performance of other modes such as highway travel or air travel, the relative cost of rail compared to other modes, and other considerations.

Table 1-43: Projected Amtrak Ridership

City	2018	2019	2020	2030	2040	2050
Atlanta	70,890	71,656	72,431	80,653	89,807	100,002
Gainesville	5,032	5,086	5,141	5,725	6,375	7,098
Jesup	9,461	9,563	9,667	10,764	11,986	13,346
Savannah	53,769	54,350	54,938	61,174	68,118	75,850
Toccoa	2,324	2,349	2,375	2,644	2,944	3,278
Total	141,476	143,005	144,551	160,959	179,230	199,574

Source: Amtrak, Governor's Office of Planning and Budget

1.2.4. Fuel Cost Trends

Changes in fuel costs can influence modal choices in how people and freight move. This is considered in the state rail plan to assess decision making parameters that influence a shift in goods and people movement between modes. Retail gasoline prices dropped over 40 percent from a 2012 high of \$3.97 per gallon to a 2016 low of \$2.25 per gallon. As of October 2019, average prices nationwide were \$2.73 per gallon, according to the Energy Information Administration

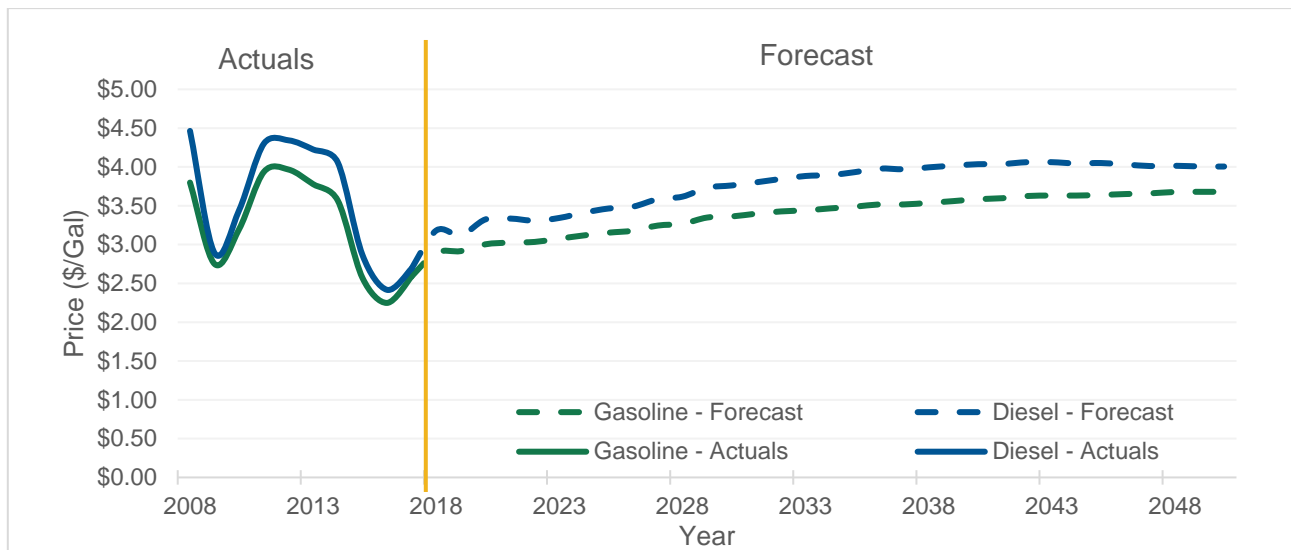


(EIA).⁵¹ Shown in **Figure 1-76**, near-term projections from EIA predict gasoline prices to hover between \$2.92 and \$3.00 per gallon between 2019 and the end of 2020.⁵² Retail diesel prices have followed similar trends to gasoline and dropped over 40 percent from a 2012 high of \$4.34 per gallon to a 2016 low of \$2.42. Prices increased to \$3.18 per gallon as of October 2019. EIA's short-term forecast projects retail diesel prices to remain relatively stable between \$3.12 and \$3.32 between 2019 and the end of 2020.

Looking at longer term projections, EIA's *Annual Energy Outlook 2019* publication forecasts gasoline and diesel fuel prices to increase at compounded annual growth rates of 0.7 and 0.9 percent, respectively (in real terms) between 2020 and 2050. In 2050, motor gasoline prices are expected to reach an average national price of \$3.68 per gallon, while diesel is forecasted to reach \$3.14 per gallon in 2018 dollars.

When fuel prices rise, the marginal cost of highway transportation relative to rail transportation increases. According to the Mineta Transportation Institute, in U.S. urban areas, a 10 percent increase in gasoline prices contributes to a change in bus ridership of 0.84 percent; light rail ridership, 1.16 percent; commuter rail ridership, 1.06 percent, and heavy rail ridership, 0.94 percent.⁵³ At gasoline prices higher than \$4.00, the study found that commuter rail transit grows roughly 2.05 percent while bus ridership increases 1.67 percent; light rail ridership, 9.34 percent, and heavy rail ridership, 0.66 percent for every 10 percent increase in gasoline prices. Gasoline prices are forecasted to rise by almost 22 percent between 2020 and 2050 which is expected to contribute to a rise in transit ridership, all else being equal.

Figure 1-76: Gasoline and Diesel Prices - Actuals and Forecasts (2018\$)



Source: EIA

⁵¹ U.S. Energy Information Administration, *Short Term Energy Outlook*

⁵² U.S. Energy Information Administration, *Annual Energy Outlook 2019* – Table: Petroleum and Other Liquids Prices

⁵³ Iseki, Hiroyuki, and Rubaba Ali. "Net Effects of Gasoline Price Changes on Transit Ridership in U.S. Urban Areas." Mineta Transportation Institute, December 2014. <https://transweb.sjsu.edu/research/net-effects-gasoline-price-changes-transit-ridership-us-urban-areas>



1.2.5. Rail Congestion Trends

Railroads are required to publish performance data to the STB. Some statistics are specific to certain rail yards, but others are system-wide and not specific to Georgia. One proxy for measuring railroad congestion is network velocity (total freight train-miles divided by total freight train hours). According to the Association of American Railroads' Railroad Ten-Year trends 2007-2016, national network velocity fluctuated between 19.2 and 20.0 freight train-miles per freight train-hour during this period. Network velocity dropped significantly in 2014, as shown in **Figure 1-77**. Average Class I railroad network velocity across the U.S. rose and fell over several-year intervals but exhibited neither a consistent increase nor decrease between 2007 and 2018.

As illustrated in **Figure 1-78**, over the last three years NS and CSX have experienced variable network velocity. Between January 2016 and October 2019, CSX's average weekly freight train velocity increased by 45 percent from 14.2 to 20.6 freight train-miles per train-hours, while NS's declined by 11 percent from 24.7 to 22.4 freight train-miles per train-hours.

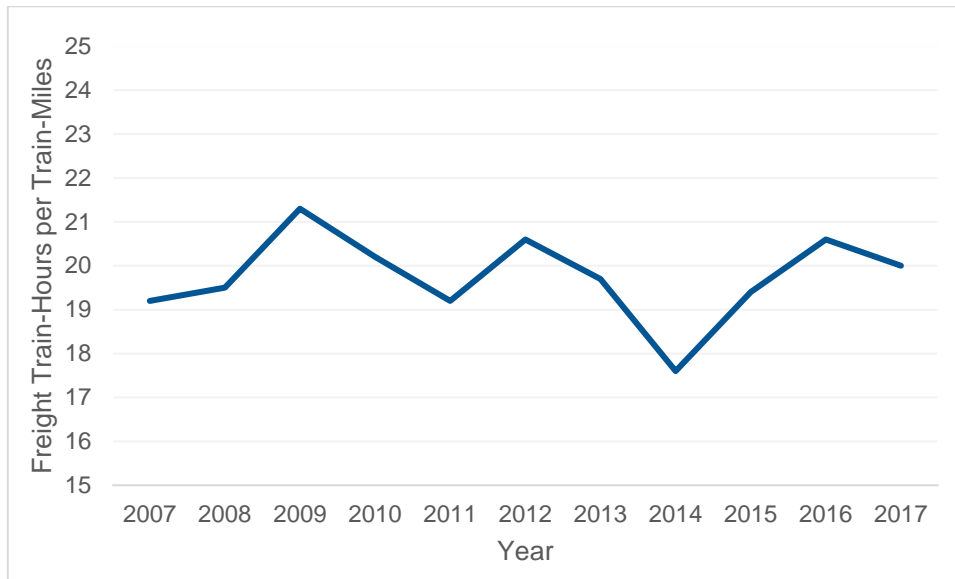
Another proxy measure for railroad congestion is average dwell time, the time that railcars spend at each yard. Waycross Georgia is one of CSX's largest yards, while Macon Georgia is one of NS's largest yards. Waycross had a decrease in average dwell time per car of 48 percent from 29.4 hours to 15.2 hours between 2016 and October 2019, as shown in **Figure 1-79**. Macon experienced a 39 percent decline in average dwell time per car over the same period dropping from 36.7 hours to 22.5 hours. CSX and NS credit the implementation of the principles of precision-schedule railroading, a shift in operating strategy from managing the movement trains to managing the movement of individual rail cars, as the mechanism which facilitated improved overall efficiency across its system.^{54,55} Prior to adoption of precision railroading, cars would wait in yards until large sized trains could be built.

⁵⁴ Cosgrove, Emma. "Norfolk Southern Decreases Dwell Time 23% with PSR Transition Underway." Supply Chain Dive, April 25, 2019. <https://www.supplychaindive.com/news/norfolk-southern-service-improvement-dwell-OR-PSR/553432/>.

⁵⁵ "Rail Insider-Class I Focus: Operational and Efficiency Gains Can Create a Virtuous Cycle for CSX. Information For Rail Career Professionals From Progressive Railroading Magazine." Progressive Railroading, October 2019. https://www.progressiverailroading.com/csx_transportation/article/Class-I-focus-Operational-and-efficiency-gains-can-create-a-virtuous-cycle-for-CSX--58793.



Figure 1-77: Average Class I Railroad Network Velocity 2007 - 2017



Source: AAR

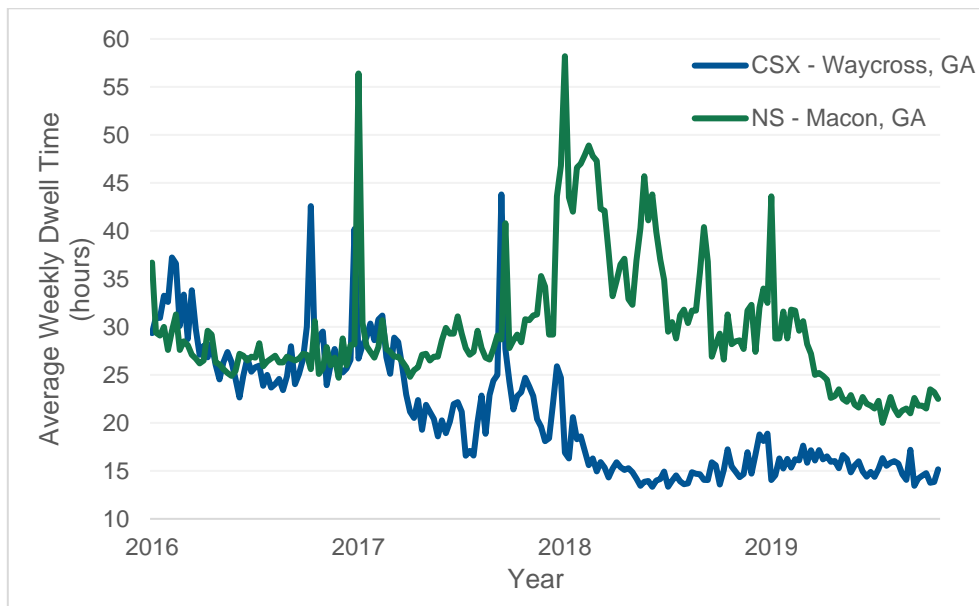
Figure 1-78: Norfolk Southern and CSX System Average Weekly Network Velocity January 2016 - October 2019



Sources: NS, CSX Weekly Performance Reports to STB



Figure 1-79: Average Weekly Dwell Times for Key Georgia Terminals January 2016 - October 2019



Sources: NS, CSX Weekly Performance Reports to STB

1.2.6. Highway and Airport Congestion Trends

Highway Congestion Trends

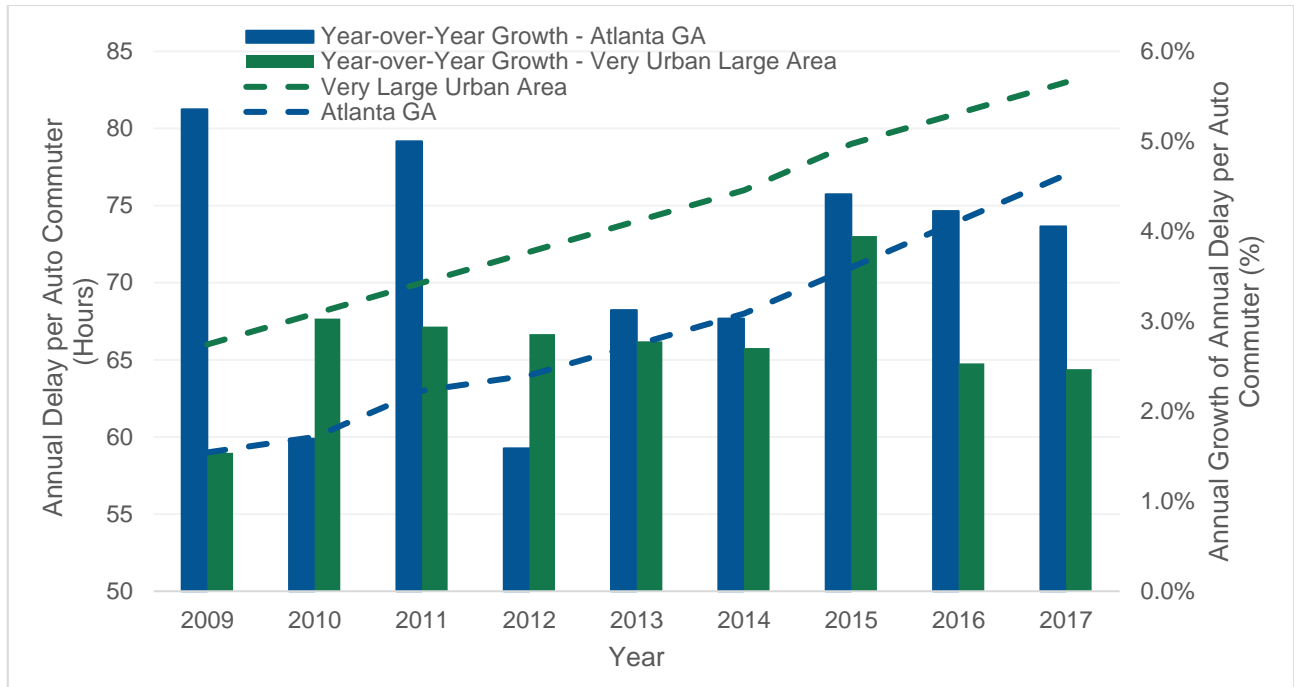
Increases in roadway congestion could improve the relative competitiveness of freight and passenger rail transportation. According to the Texas A&M Transportation Institute's 2019 Urban Mobility Report Base Statistics, Atlanta's annual delay per auto commuter grew 30.5 percent (3.4 percent per year) between 2009 and 2017 as shown in **Figure 1-80**.⁵⁶ This growth outpaced the report's aggregate benchmark of cities with populations greater than three million which experienced 25.8 percent growth (2.9 percent per year) over the same period.

The Georgia travel demand model forecasts that without additional highway improvements beyond those currently programmed, Georgia highway level of service (LOS) is expected to decline between 2015 and 2050 as shown in the accompanying maps in **Figure 1-81**. At LOS of C or better, vehicles operate at free flow speed, whereas roadway segments with LOS of D, speeds are slightly below free flow speed. At LOS E roadways are approaching capacity. Traffic moves, but flow becomes irregular and speed varies rapidly, rarely reaching the posted limit. For roadways with LOS rated F, peak period traffic volumes exceed capacity, and traffic moves slowly with unpredictable travel times. Traffic jams result. By providing an additional mode choice, rail can help to relieve congestion and reduce future required roadway investments.

⁵⁶ Schrank, David, Bill Eisele, and Tim Lomax. "2019 Urban Mobility Report." Urban Mobility Report and Appendices. Texas A&M Transportation Institute, August 2019. <https://mobility.tamu.edu/umr/>.



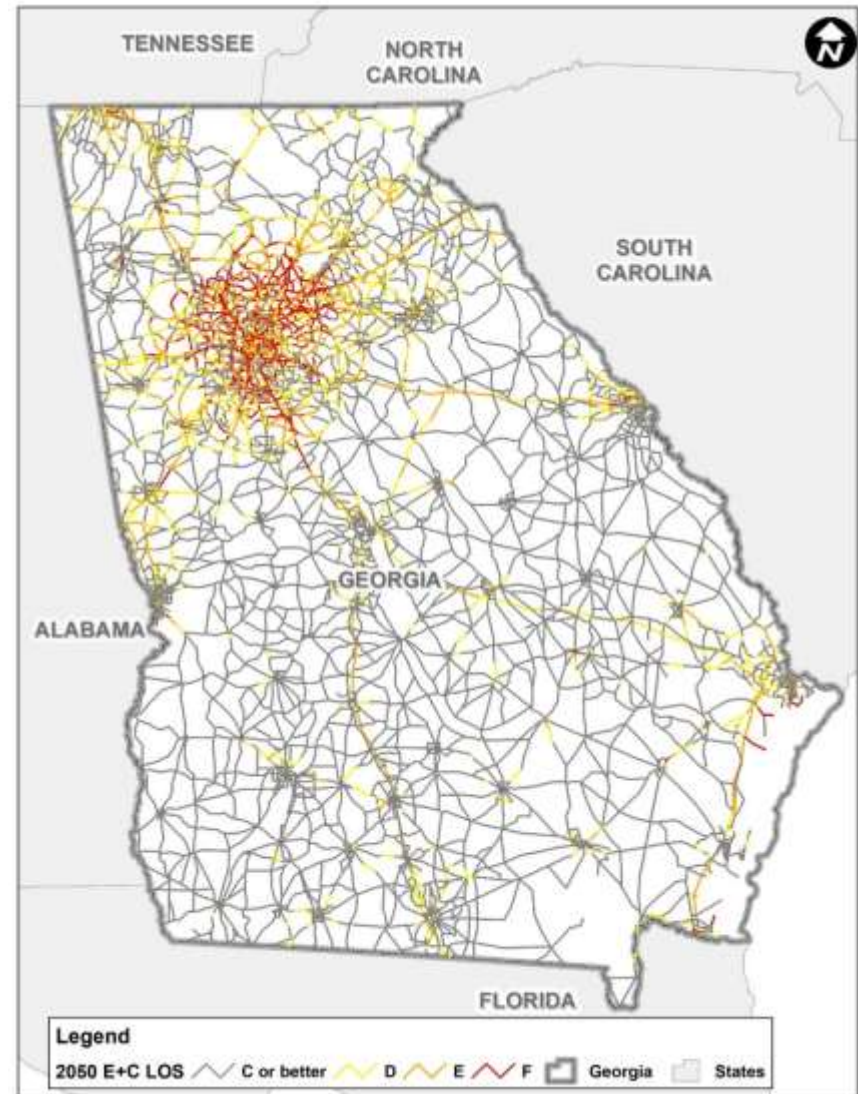
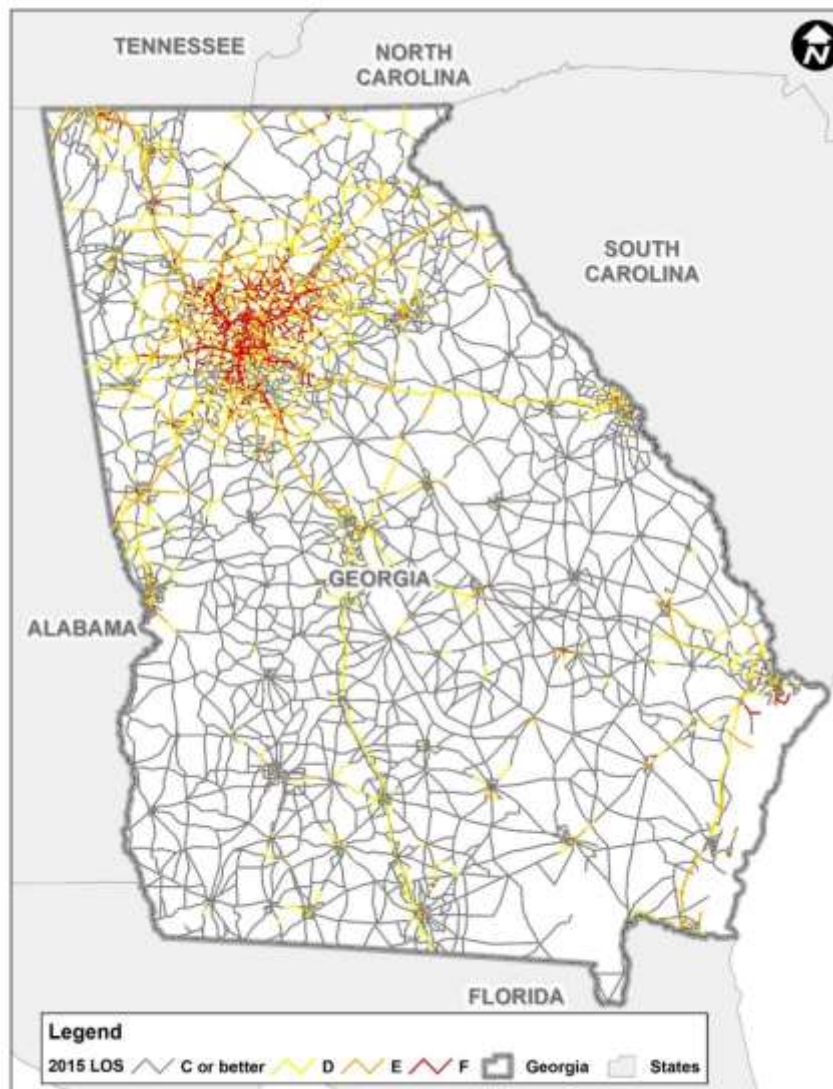
Figure 1-80: Annual Delay per Auto Commuter Comparison - Atlanta Georgia vs. Very Large Urban Area National Average



Source: Texas A&M 2019 Urban Mobility Report



Figure 1-81: 2015 (left) and 2015 (right) Georgia Highway Level of Service



Source: GDOT statewide travel demand model



Airport Congestion Trends

Understanding airport congestion trends in relation to rail can support the assessment of opportunities for passenger rail in the state. According to the Georgia Statewide Aviation System plan there are nine commercial airports and 94 general aviation airports serving the state. Hartsfield-Jackson Atlanta International Airport (ATL) the busiest airport in in the world and based on 2018 data from the Federal Aviation Administration (FAA) has nearly 52 million enplanements.⁵⁷ The airport carries almost six percent of annual U.S. passenger boardings. Georgia's second largest airport, Savannah/Hilton Head International (SAV), had 1.4 million enplanements in 2018, while the third largest, Augusta Regional at Bush Field (AGS), had just over 300,000.

Airport on-time percentages can serve as a proxy for airport congestion, since congestion increases flight delays. Flights are on time if they arrive or depart gates within 15 minutes of scheduled arrival or departure times. At ATL, 83.8 percent of 2019 arrivals and 80.8 percent of 2019 departures were on time as of November. Performance was similar for SAV, where 76.5 percent of arrivals and 78.7 percent of departures were on time. AGS also experienced similar performance, where 80.7 percent of arrivals and 79.8 percent of departures were on time.

The annual on-time performance of arrivals and departures at these three airports has fluctuated between 70 and 85 percent as shown in

⁵⁷ Federal Aviation Administration. Calendar Year 2018 Revenue Emplanements at Commercial Service Airports, *International Airport Review*.





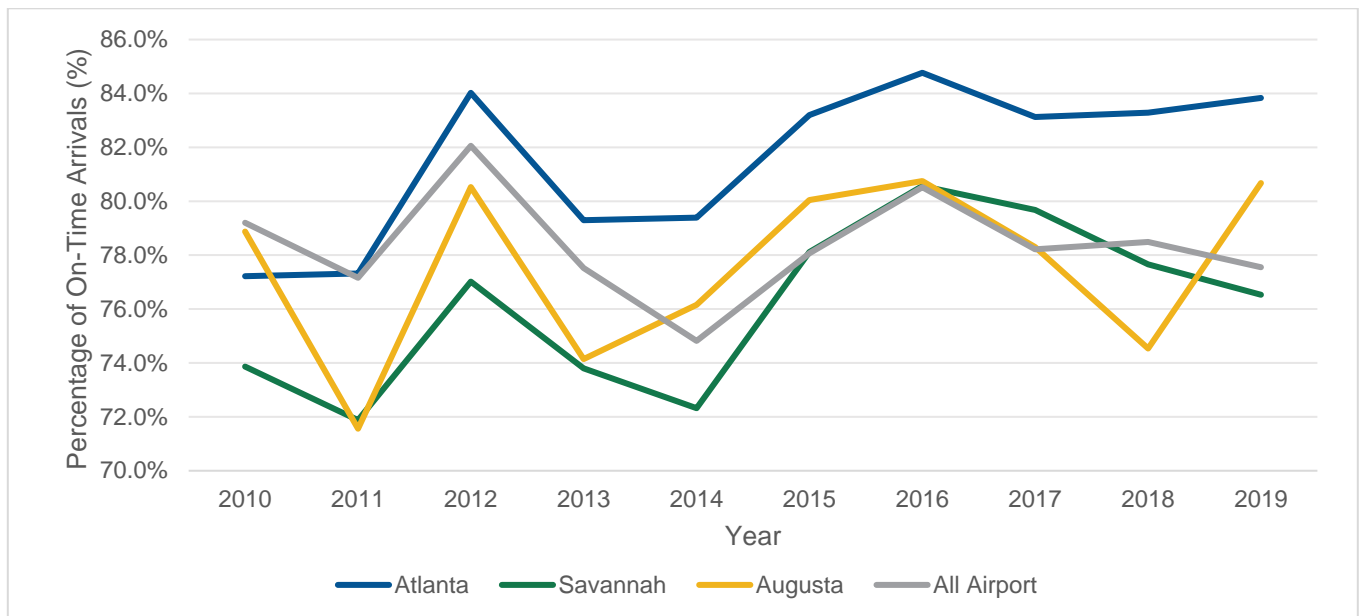
Figure 1-82 and **Figure 1-83**. This is generally in line with national performance during this period, although ATL has exceeded the national average since 2011.⁵⁸ Overall the data indicate that on-time performance of Georgia's airports has remained within the same range or improved. According to the FAA between 2010 and 2019, 69 percent of delays were caused by weather, 22 percent were caused by volume, while the remainder were caused by other considerations. Theoretically, growth in airport congestion would increase the relative desirability of other modes such as intercity passenger rail travel.

⁵⁸ U.S. Department of Transportation: Bureau of Transportation Statistics. *On-Time Performance – Flight Delays at a Glance (January to November)*.



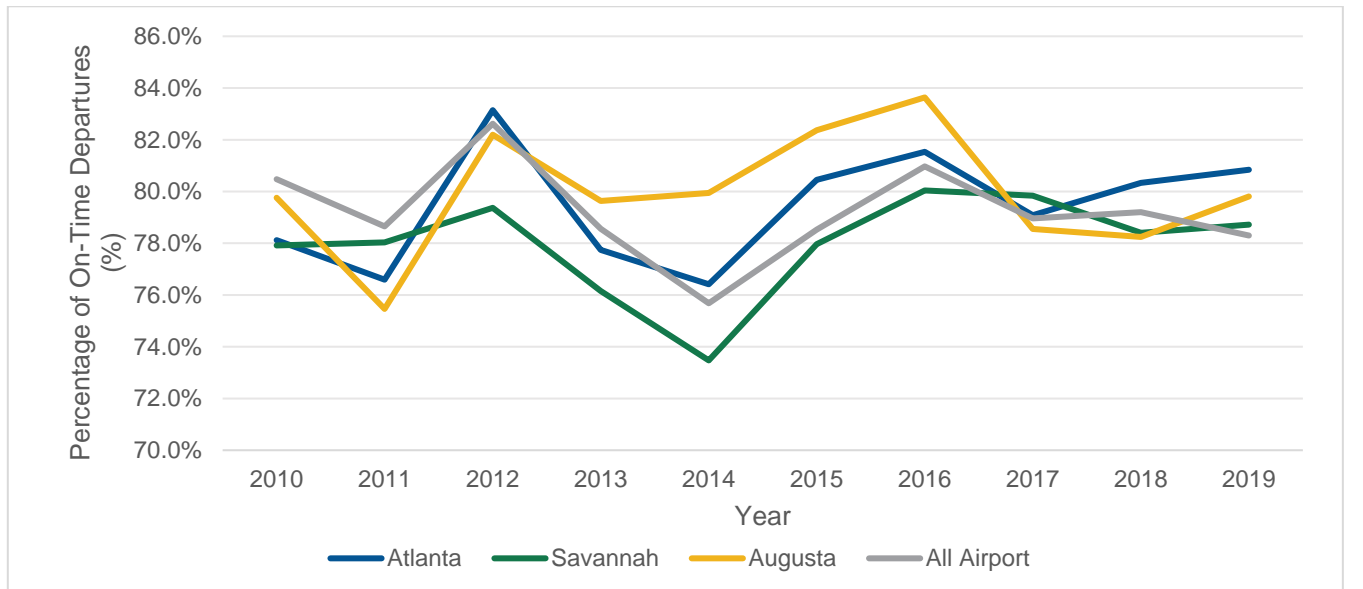


Figure 1-82: On Time Arrivals: Major Georgia Airports vs. All Airports



Source: FAA

Figure 1-83: On-Time Departures: Major Georgia Airports vs. All Airports



Source: FAA



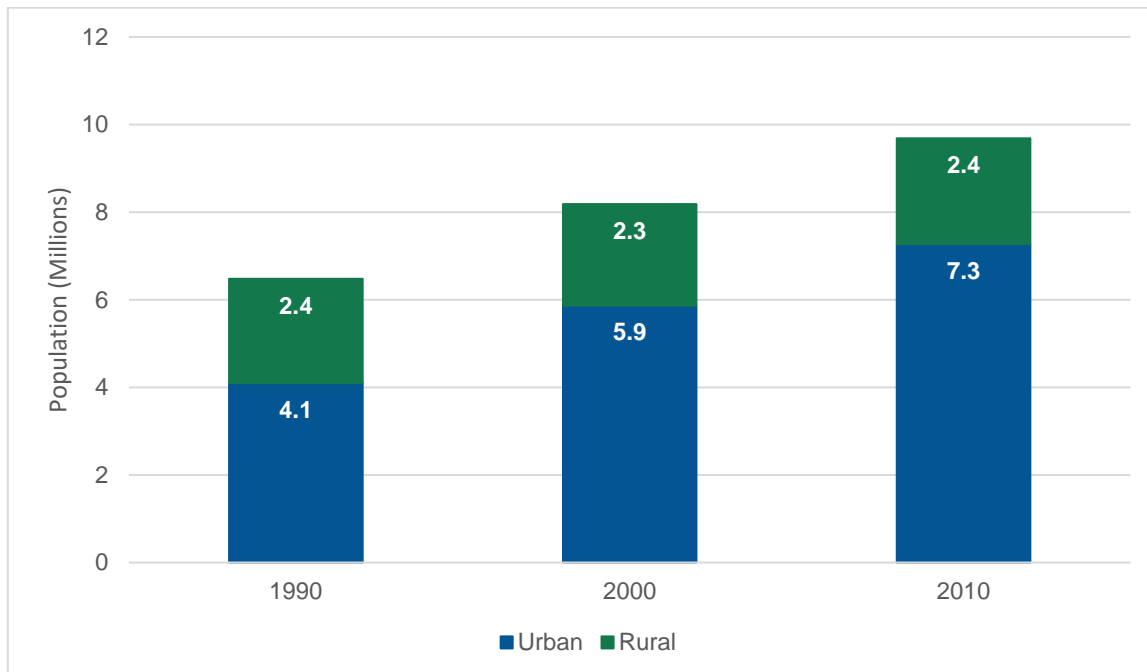


1.2.7. Land Use Trends

Since the 1830s the railroads have shaped growth throughout Georgia with tracks to major urban areas such as Atlanta, Athens, Augusta, Macon and Savannah. The railroads also were strategic in the growth of areas like Waycross. As industry has changed, the relationship between the railroad network and communities have changed. However, the connection of the railroad to land use functions is still a major factor in many areas because changes in land use can cause conflicts between new land uses and rail, such as when formerly industrial or agricultural land becomes residential. Freight rail operations can be loud and disruptive to neighboring residential areas. Changes in land use can potentially increase or decrease the usage of highway/rail crossings, shifting the infrastructure needs in associated areas. In relation to the state rail plan, anticipating changes in land use can be interpreted by assessing shifts in population.

As shown in **Figure 1-84**, the number of people living in rural areas generally remained constant between the U.S. 1990 Census and the 2010 Census. At the same time, the number of people living in urban areas increased by 78 percent. Atlanta has particularly been a growth area, with the metropolitan area increasing in population from approximately three million in 1990 to nearly six million in 2018. Over half the population of Georgia lives in the Atlanta metropolitan area. Additionally, as seen in **Figure 1-85**, population growth is focused in north Georgia emanating from the metro Atlanta region, and along the coast. Simultaneously populations are declining in the more rural central and southern parts of the state.

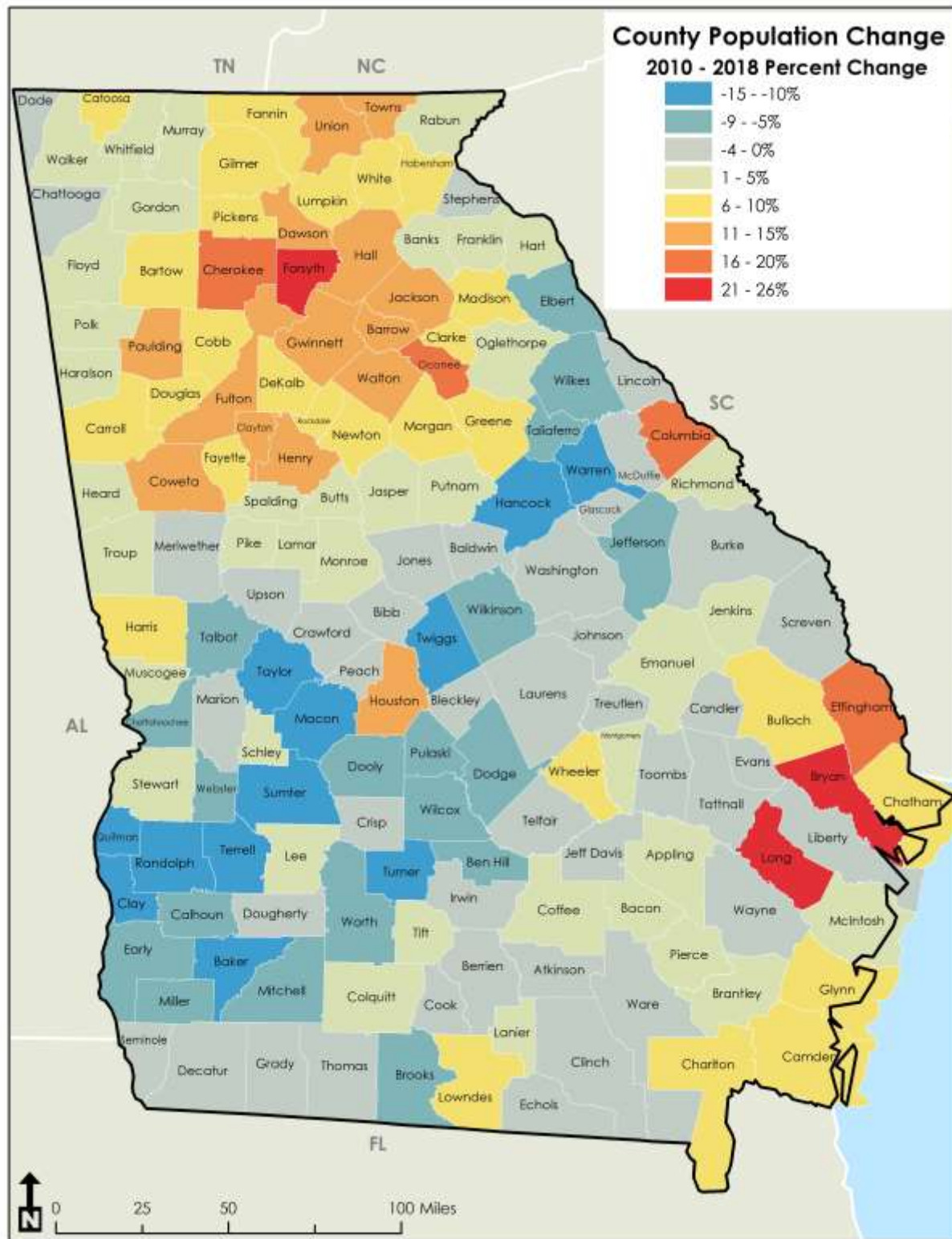
Figure 1-84: Georgia Population by Urban or Rural



Source: U.S. Census Bureau



Figure 1-85: Population Change 2010-2018



Source: Georgia Department of Community Affairs

APPENDIX B: Railroad Profiles

**GEORGIA
STATE RAIL
PLAN - 2021**





Georgia State Rail Plan

Appendix B:

Railroad Profiles



Contents

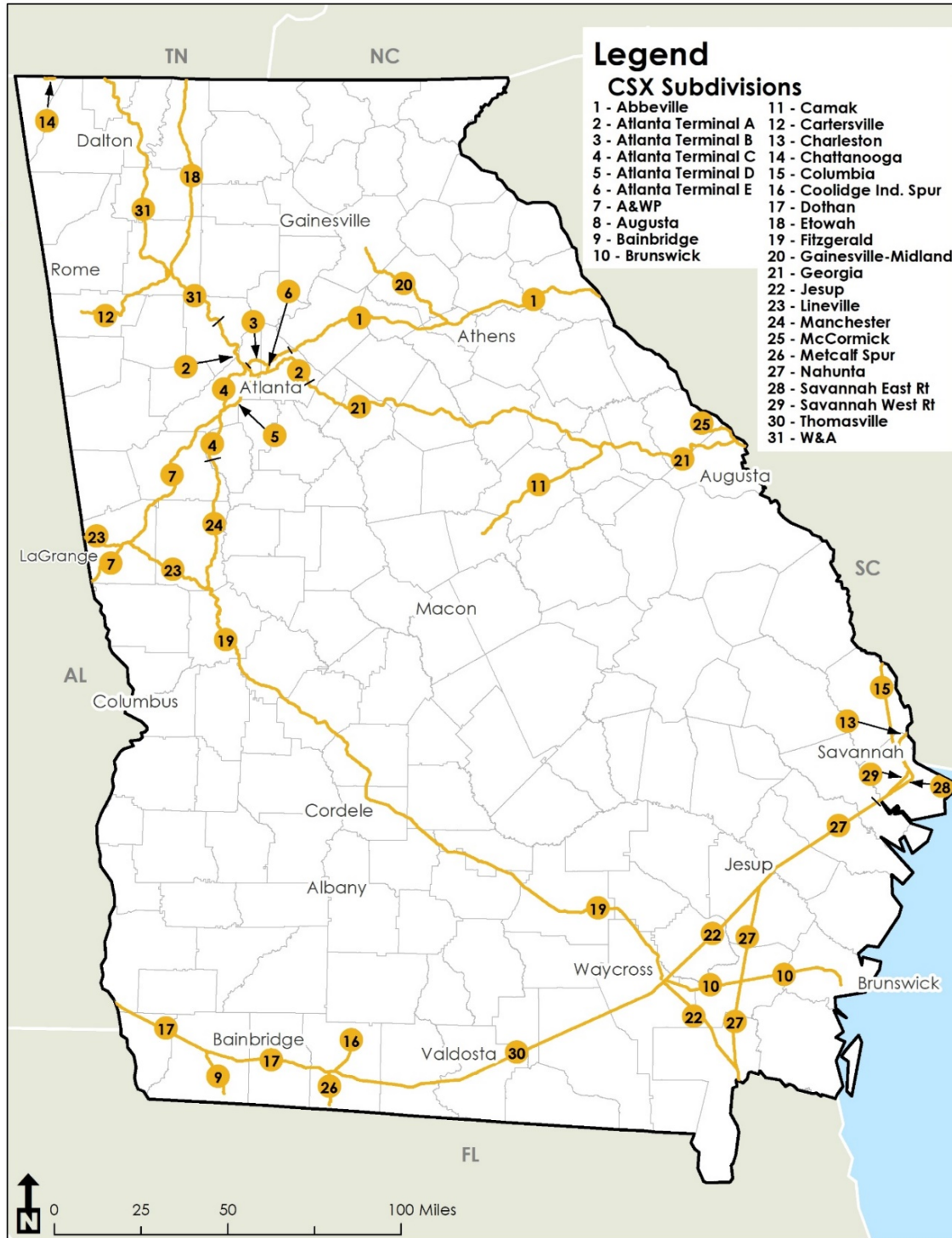
1.	Class 1 Railroad Profiles.....	1
1.1.	CSX Transportation	1
1.2.	Norfolk Southern	16
2.	Short Line Railroads	27
2.1.	Chattooga and Chickamauga Railway.....	28
2.2.	Chattahoochee Industrial Railroad	29
2.3.	CaterParrott Railnet.....	30
2.4.	First Coast Railroad	31
2.5.	Georgia Central Railway	32
2.6.	Golden Isle Terminal Railroad.....	33
2.7.	Georgia Northeastern Railroad.....	34
2.8.	Georgia Southern Railway Company	35
2.9.	Georgia Southwestern Railroad.....	36
2.10.	Hilton and Albany Railroad	37
2.11.	Heart of Georgia Railroad	38
2.12.	Ogeechee Railroad Company	39
2.13.	Riceboro Southern Railway.....	40
2.14.	Savannah Port Terminal Railroad	41
2.15.	Southern Electric Railroad Company	42
2.16.	St. Marys Railroad.....	43
2.17.	St. Mary's Railway West	44
2.18.	Valdosta Railway, L.P	45



1. Class 1 Railroad Profiles

1.1.CSX Transportation

Figure 1: CSX Subdivisions





The CSX rail system is divided into subdivisions. The following tables summarize the makeup of CSX subdivisions in Georgia.

SUBDIVISION:	Abbeville Subdivision
Owner	CSXT
Operator	CSXT
Line Heritage	Seaboard Air Line (SAL)
Subdivision Route / Mileage	NE Tucker, Georgia – Abbeville, South Carolina; 119 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	50 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Yes
Operational Authority	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches (per 2010 ETT)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	28-33 MGT
Average Number of Trains per Day	14.1 (Atlanta-Salak)
Commodities Transported	Intermodal, automotive, and general merchandise freight

SUBDIVISION:	Atlanta Terminal A
Owner	CSXT
Operator	CSXT
Line Heritage	Nashville, Chattanooga & St. Louis (NC&StL) / Louisville & Nashville (L&N), Georgia
Subdivision Route / Mileage	North Elizabeth, Georgia-Lithonia, Georgia; 44.5 miles
FRA Track Class	Class 4
Number of Main Tracks	One and two main tracks with passing sidings
Maximum Authorized Speed Freight	50 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches; CSXT Rule 193 (Circle Connection-Kirkwood, Atlanta)
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Intermodal, automotive, and general merchandise freight traffic (part of CSXT's Southeastern Corridor)



SUBDIVISION:	Atlanta Terminal B
Owner	CSXT
Operator	CSXT
Line Heritage	Seaboard Air Line (SAL)
Subdivision Route / Mileage	Tucker, Georgia-Huff Road (Atlanta, Georgia); 14.3 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	45 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Intermodal, automotive, and general merchandise freight traffic

SUBDIVISION:	Atlanta Terminal C
Owner	CSXT
Operator	CSXT
Line Heritage	Atlanta, Birmingham & Coast (ABC)
Subdivision Route / Mileage	Tilford (Atlanta, Georgia)-Peachtree City, Georgia; 38.0 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	55 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Intermodal, automotive, and general merchandise freight traffic



SUBDIVISION:	Atlanta Terminal D
Owner	CSXT
Operator	CSXT
Line Heritage	Atlanta & West Point (A&WP)
Subdivision Route / Mileage	Jones Avenue (Atlanta, Georgia)-Stonewall, Georgia; 16.6 miles. Joint with NS from East Point to Atlanta (6.4 miles)
FRA Track Class	Class 4
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	50 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	General merchandise freight traffic

SUBDIVISION:	Atlanta Terminal E
Owner	CSXT
Operator	CSXT
Line Heritage	Seaboard Air Line (SAL)
Subdivision Route / Mileage	Belt Junction, Georgia-Kirkwood, Georgia; 2.8 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Authorized Speed Freight	20 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	General merchandise freight traffic



SUBDIVISION:	Augusta
Owner	CSXT
Operator	CSXT
Line Heritage	Charleston & Western Carolina Railway (C&WC)
Subdivision Route / Mileage	Augusta, Georgia – Yemassee, South Carolina; 85 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	49 mph
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Yes
Operational Authority	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Unknown

SUBDIVISION:	A&WP Subdivision
Owner	CSXT
Operator	CSXT
Heritage Line	Atlanta & West Point (AWP) in Georgia
Subdivision Route / Mileage	Stonewall (Atlanta, Georgia) – M&M Subdivision (Montgomery, Alabama); 157.6 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	50 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	25-43 MGT
Average Number of Trains per Day	16.9 (Atlanta-Lagrange), 9.2 (Lagrange-Montgomery)
Commodities Transported	Intermodal, automotive, and general merchandise freight



SUBDIVISION:	Bainbridge
Owner	CSXT
Operator	CSXT
Line Heritage	Seaboard Air Line (SAL)
Subdivision Route / Mileage	Tallahassee, Florida-Bainbridge, Georgia; 39.6 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	25 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (19'2" ATR)
Current Traffic Density	3.39 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	General merchandise freight traffic

SUBDIVISION:	Brunswick
Owner	CSXT
Operator	CSXT
Line Heritage	Atlantic Coast Line (ACL)
Subdivision Route / Mileage	Waycross (Brunswick Junction), Georgia-Brunswick, Georgia; 51.7 miles
FRA Track Class	Class 3
Number of Main Tracks	One main track
Maximum Authorized Speed Freight	40 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density (2011 data)	1.97-2.06 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	Automotive, wood pellets, and general merchandise freight traffic



SUBDIVISION:	Camak
Owner	CSXT
Operator	CSXT
Line Heritage	Georgia (GA)
Subdivision Route / Mileage	Camak, Georgia, to End of Track (Milledgeville, Georgia); 47 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	25 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (19'2" ATR)
Current Traffic Density	5.45 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	Coal and merchandise freight traffic

SUBDIVISION:	Cartersville
Owner	CSXT
Operator	CSXT
Line Heritage	Seaboard Air Line (SAL)
Subdivision Route / Mileage	Cartersville – Cedartown, Georgia; 36.1 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Authorized Speed Freight	25 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs. (Cartersville-Stilesboro, Georgia, segment only)
Clearances	Not double stack compliant
Current Traffic Density	0.16-0.27 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	Coal, hauled in unit trains for Georgia Power's Plant Bowen west of Cartersville. Common sources for this coal include mines in Kentucky and Indiana.



SUBDIVISION:	Charleston
Owner	CSXT
Operator	CSXT
Line Heritage	Atlantic Coast Line (ACL)
Subdivision Route / Mileage	Florence, South Carolina-Central Junction (Savannah, Georgia); 198.1 miles
FRA Track Class	Class 4
Number of Main Tracks	One and two main tracks with sidings
Maximum Authorized Speed Freight	60 mph
Maximum Authorized Speed Passenger	79 mph
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	30 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	Hosts Amtrak long-distance trains (<i>Silver Meteor</i> and <i>Palmetto</i> services); carries intermodal and general merchandise freight traffic (part of CSXT's I-95 Corridor)

SUBDIVISION:	Columbia
Owner	CSXT
Operator	CSXT
Line Heritage	Seaboard Air Line (SAL)
Subdivision Route / Mileage	Elmwood Junction (Columbia), South Carolina-Central Junction (Savannah, Georgia); 138.0 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	60 mph
Maximum Authorized Speed Passenger	79 mph
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	18-19 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	Hosts Amtrak long-distance trains (<i>Silver Star</i> service); carries intermodal and general merchandise freight traffic



SUBDIVISION:	Dothan
Owner	CSXT
Operator	CSXT
Line Heritage	Atlantic Coast Line (ACL)
Subdivision Route / Mileage	Montgomery, Alabama-Thomasville Yard, Georgia; 208.0 miles
FRA Track Class	Class 3
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	40 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	8.35-11.66 MGT
Average Number of Trains per Day	3.6
Commodities Transported	General merchandise freight traffic

SUBDIVISION:	Etowah
Owner	CSXT
Operator	CSXT
Line Heritage	Louisville & Nashville (L&N)
Subdivision Route / Mileage	Etowah, Tennessee – Junta, Georgia; 89.3 miles
FRA Track Class	Class 4
Number of Main Tracks	One and two main tracks with sidings
Maximum Authorized Speed Freight	60 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack COFC restricted (18'2" ATR)
Current Traffic Density	31-39 MGT
Average Number of Trains per Day	11.9
Commodities Transported	General merchandise freight traffic



SUBDIVISION:	Fitzgerald
Owner	CSXT
Operator	CSXT
Line Heritage	Atlanta, Birmingham & Coast (AB&C)
Subdivision Route / Mileage	Manchester, Georgia-Waycross, Georgia; 199.2 miles
FRA Track Class	Class 4
Number of Main Tracks	One and two main tracks with sidings
Maximum Authorized Speed Freight	60 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	54-70 MGT
Average Number of Trains per Day	31.6
Commodities Transported	Intermodal, automotive, and general merchandise freight traffic (part of CSXT's Southeastern Corridor)

SUBDIVISION:	Gainesville Midland
Owner	CSXT
Operator	CSXT
Line Heritage	Gainesville Midland (GM)
Subdivision Route / Mileage	Midland (Athens, Georgia) – Gainesville, Georgia; 38.3 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Authorized Speed Freight	25 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs. (Cartersville – Stilesboro segment only)
Clearances	Double stack compliant (18'2" ATR)
Current Traffic Density	2.0-2.15 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	Unknown



SUBDIVISION:	Georgia
Owner	CSXT
Operator	CSXT
Line Heritage	Georgia (GA)
Subdivision Route / Mileage	Lithonia (Atlanta, Georgia) – Harrisonville (Augusta, Georgia); 145.6 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	50 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS)
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs. (Cartersville – Stilesboro segment only)
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	11-18 MGT
Average Number of Trains per Day	4.5
Commodities Transported	General merchandise freight traffic

SUBDIVISION:	Jesup
Owner	CSXT
Operator	CSXT
Line Heritage	Atlantic Coast Line (ACL)
Subdivision Route / Mileage	Jesup, Georgia-Folkston, Georgia; 72.7 miles
FRA Track Class	Class 5
Number of Main Tracks	One and two main tracks with sidings
Maximum Authorized Speed Freight	60 mph
Maximum Authorized Speed Passenger	70 mph
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	25-70 MGT
Average Number of Trains per Day	38.9 (Waycross-Folkston), 12.7 (Jesup-Waycross)
Commodities Transported	Intermodal, automotive, and general merchandise freight traffic (part of CSXT's I-95 Corridor and Southeastern Corridor)



SUBDIVISION:	Lineville
Owner	CSXT
Operator	CSXT
Line Heritage	Atlanta, Birmingham & Coast (AB&C)
Subdivision Route / Mileage	Parkwood, Alabama – Manchester, Georgia; 179.4 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	50 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs. (Cartersville - Stilesboro segment only)
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	39.75-47.25 MGT
Average Number of Trains per Day	22.8 (Parkwood-Lagrange); 19.1 (Lagrange-Manchester)
Commodities Transported	Intermodal, automotive, and general merchandise freight traffic (part of CSXT's Southeastern Corridor)

SUBDIVISION:	Manchester
Owner	CSXT
Operator	CSXT
Line Heritage	Atlanta, Birmingham & Coast (AB&C)
Subdivision Route / Mileage	Peachtree City, Georgia – Manchester, Georgia; 40.9 miles
FRA Track Class	Class 4
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	55 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	23-26 MGT
Average Number of Trains per Day	11.4
Commodities Transported	General merchandise freight traffic



SUBDIVISION:	McCormick
Owner	CSXT
Operator	CSXT
Line Heritage	Charleston & West Carolina (C&WC)
Subdivision Route / Mileage	Salak (Greenwood), South Carolina-Augusta, Georgia; 63.0 miles
FRA Track Class	Class 3
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	40 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at Martinez, Georgia, siding switches. Rest of line in Georgia is void of signals.
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (19'2" ATR)
Current Traffic Density	28-29 MGT
Average Number of Trains per Day	Unknown
Commodities Transported	Coal and general merchandise freight traffic

SUBDIVISION:	Nahunta
Owner	CSXT
Operator	CSXT
Line Heritage	Atlantic Coast Line (ACL)
Subdivision Route / Mileage	South Ogeechee (west of Savannah, Georgia)-Dinsmore, Florida; 125.2 miles
FRA Track Class	Class 5
Number of Main Tracks	One and two main tracks with sidings
Maximum Authorized Speed Freight	60 mph for general freight; 70 mph for intermodal
Maximum Authorized Speed Passenger	79 mph
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	18-49 MGT
Average Number of Trains per Day	28.1 (Burroughs-Jesup), 15.1 (Jesup-Folkston)
Commodities Transported	Hosts Amtrak long-distance trains (<i>Silver Star</i> and <i>Silver Meteor</i> services); carries intermodal, automotive, and general merchandise freight traffic (part of CSXT's I-95 Corridor and Southeastern Corridor)



SUBDIVISION:	Savannah (East Route)
Owner	CSXT
Operator	CSXT
Line Heritage	Atlantic Coast Line (ACL)
Subdivision Route / Mileage	Savannah (Central Junction), Georgia-South Ogeechee, Georgia; 19.6 miles
FRA Track Class	Class 5
Number of Main Tracks	One and two main tracks with sidings
Maximum Authorized Speed Freight	60 mph for general freight; 70 mph for intermodal
Maximum Authorized Speed Passenger	79 mph
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Intermodal and general merchandise freight traffic (part of CSXT's I-95 Corridor)

SUBDIVISION:	Savannah (West Route)
Owner	CSXT
Operator	CSXT
Line Heritage	Seaboard Air Line (SAL)
Subdivision Route / Mileage	Savannah (passenger station), Georgia-Burroughs, Georgia; 9.7 miles
FRA Track Class	Class 5
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	60 mph for general freight; 70 mph for intermodal
Maximum Authorized Speed Passenger	79 mph
Wayside Signals	Automatic Block Signals (ABS) with Control Point Signals (CPS) at some siding switches
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density (2011 data)	Unknown
Average Number of Trains per Day	Unknown
Commodities Transported	Hosts Amtrak long-distance trains (Silver Star and Silver Meteor services); carries intermodal and general merchandise freight traffic (part of CSXT's I-95 Corridor)



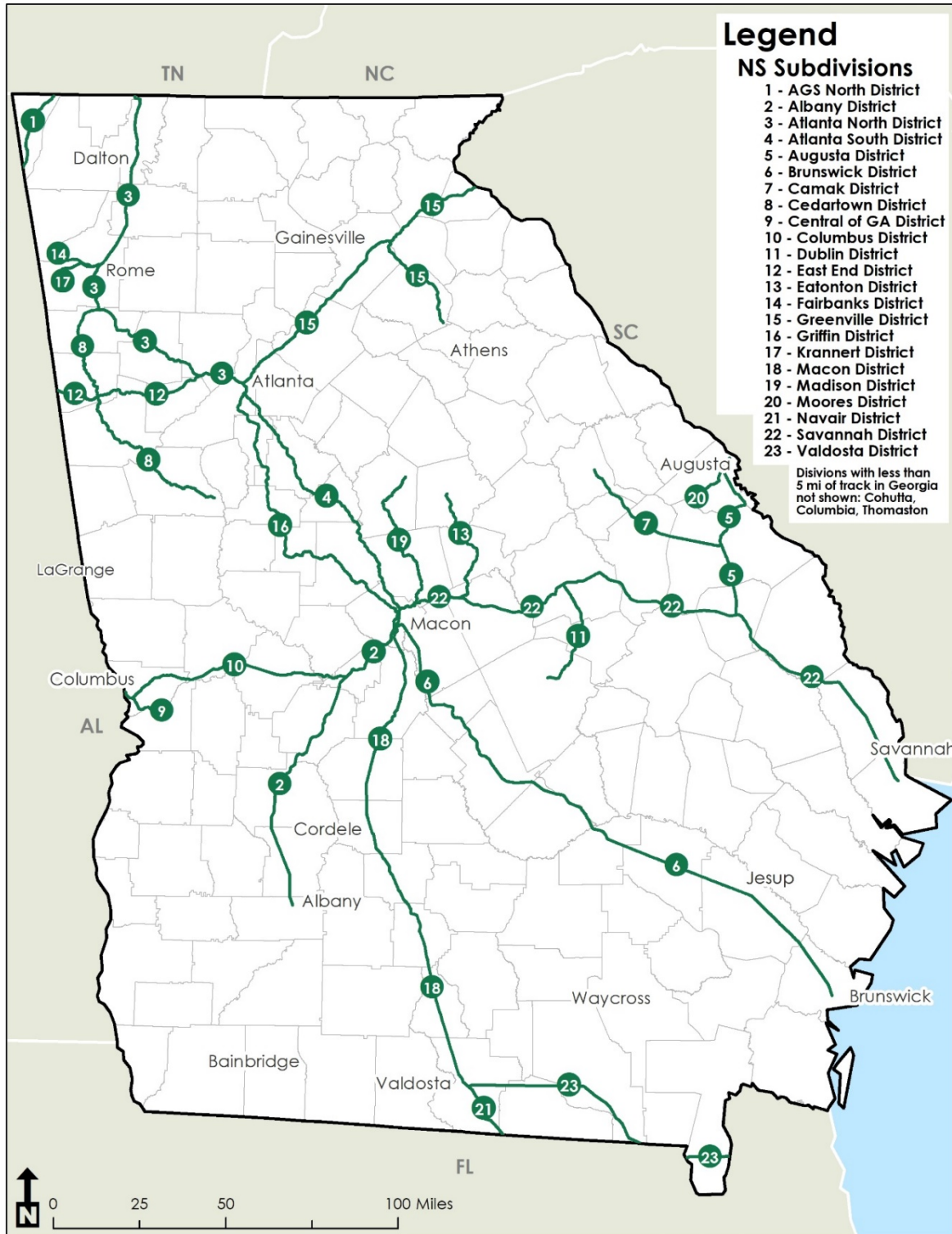
SUBDIVISION:	Thomasville
Owner	CSXT
Operator	CSXT
Line Heritage	Atlantic Coast Line (ACL)
Subdivision Route / Mileage	Thomasville, Georgia-East Waycross, Georgia; 106.3 miles
FRA Track Class	Class 3
Number of Main Tracks	One main track with sidings
Maximum Authorized Speed Freight	40 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) and Control Point Signals (CPS) at siding switches between Ruskin and West Waycross
Operational Authority	Track Warrant Control (TWC) / Direct Traffic Control (DTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	5-16 MGT
Average Number of Trains per Day	5.9
Commodities Transported	General merchandise freight traffic

SUBDIVISION:	W&A
Owner	State of Georgia
Operator	CSXT
Line Heritage	Nashville, Chattanooga & St. Louis (NC&StL)
Subdivision Route / Mileage	Lookout (Wauhatchie), Tennessee – North Elizabeth, Georgia; 117.3 miles
FRA Track Class	Class 4
Number of Main Tracks	One and two main tracks with sidings
Maximum Authorized Speed Freight	60 mph
Maximum Authorized Speed Passenger	NA
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack compliant (20'2" ATR)
Current Traffic Density	29-62 MGT
Average Number of Trains per Day	16.4 (Wauhatchie-Junta), 25.5 (Junta-Atlanta)
Commodities Transported	Intermodal, automotive, and general merchandise freight traffic (part of CSXT's Southeastern Corridor)



1.2. Norfolk Southern

Figure 2: Norfolk Southern Subdivisions (Districts)





The Norfolk Southern rail system is divided into districts. The following tables provide details on each district.

District	AGS North District
Division	Alabama Division
Owner	NS
Operator	NS
Line Heritage	Alabama Great Southern (AGS)
Mileage in Georgia	24.32
FRA Track Class	Class 4
Number of Main Tracks	One / two main tracks with passing sidings
Maximum Speed Freight	50 mph
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS)
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	Majority 30 - 60 MGT -

District	Albany District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	108
FRA Track Class	Class 4
Number of Main Tracks	One main track with passing sidings
Maximum Speed Freight	50 mph
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS)
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	10 - 40 MGT

District	Atlanta North District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	91.92
FRA Track Class	Class 4
Number of Main Tracks	Two main tracks and one main track with passing sidings
Maximum Speed Freight	50 mph
Maximum Speed Passenger	79 mph
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Clearances	Double stack compliant
Current Traffic Density	50+ MGT



District	Atlanta South District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	84.13
FRA Track Class	Class 4
Number of Main Tracks	One / two/ three main tracks and one main track with passing sidings
Maximum Speed Freight	50 mph
Maximum Speed Passenger	60 mph
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Clearances	Double stack compliant
Current Traffic Density	50+ MGT

District	Atlanta Terminal
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	74.06
FRA Track Class	-
Number of Main Tracks	-
Maximum Speed Freight	-
Maximum Speed Passenger	NA
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Clearances	Double stack compliant
Current Traffic Density	25 - 50 MGT



District	Augusta District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	53.1
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	49 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	5 – 10 MGT

District	Brunswick District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	191.9
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	49 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	Majority of District - 1 - 5 MGT & a small portion 20 - 30 MGT

District	Camak District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Savannah & Atlanta (S&A)
Mileage in Georgia	52.9
FRA Track Class	Class 3
Number of Main Tracks	One main track
Maximum Speed Freight	40 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	1 - 5 MGT



District	Cedartown District
Division	Alabama / Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	98.3
FRA Track Class	Class 3
Number of Main Tracks	One main track
Maximum Speed Freight	40 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	1 - 5 MGT

District	Central of Georgia District
Division	Alabama / Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	10.57
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	50 mph
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block System (ABS)
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	5 - 10 MGT

District	Chattanooga Terminal
Division	Alabama / Georgia
Owner	NS
Operator	NS
Line Heritage	Alabama Great Southern (AGS)
Mileage in Georgia	8.61
FRA Track Class	-
Number of Main Tracks	-
Maximum Speed Freight	-
Maximum Speed Passenger	NA
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Clearances	Double stack compliant
Current Traffic Density	Unknown



District	Cohutta District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	2.04
FRA Track Class	Class 3
Number of Main Tracks	One main track
Maximum Speed Freight	35 mph
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS)
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	Unknown

District	Columbia District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	0.22
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	49 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	5 - 10 MGT

District	Columbus District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	70.93
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	49 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	5 - 10 MGT



District	Dublin District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Wrightsville & Tennille (W&T)
Mileage in Georgia	36.3
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Speed Freight	15 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	Unknown

District	East End District
Division	Alabama Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	30.4
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	50 mph for freight and 60 mph for intermodal
Maximum Speed Passenger	79 mph
Wayside Signals	Yes
Operational Authority	Centralized Traffic Control (CTC)
Clearances	Double stack compliant
Current Traffic Density	Unknown

District	Eatonton District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	40
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Speed Freight	25 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	1 – 5 MGT



District	Fairbanks District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	8.77
FRA Track Class	Class 1
Number of Main Tracks	One main track
Maximum Speed Freight	10 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	1 – 5 MGT

District	Greenville District
Division	Alabama / Piedmont
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG) / Southern (SOU)
Mileage in Georgia	133.19
FRA Track Class	Class 1 & 4
Number of Main Tracks	One main track
Maximum Speed Freight	15 mph/ 35 mph / 50 mph for freight and 60 mph for intermodal
Maximum Speed Passenger	79
Wayside Signals	Yes
Operational Authority	Yard Limits / TWC / CTC
Clearances	Double stack compliant
Current Traffic Density	Majority of District - 25 - 50 MGT & a small portion 1 - 5 MGT

District	Griffin District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	97.66
FRA Track Class	Class 3
Number of Main Tracks	One / two / three main tracks and one main track with sidings
Maximum Speed Freight	30 mph
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block Signals and unsignaled segments
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	5 - 25 MGT



District	Krannert District
Division	Alabama Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	12.76
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Speed Freight	20 mph
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS) and unsignaled segments
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	1 – 5 MGT

District	Macon/Valdosta District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	153.04
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	50 mph freight and 60 mph intermodal
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS)
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	Majority of district 25 -50 MGT

District	Madison District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	49.25
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Speed Freight	25 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	5 - 10 MGT



District	Moores District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Georgia & Florida (G&F)
Mileage in Georgia	14
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Speed Freight	20 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	Unknown

District	Navair District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	17.86
FRA Track Class	Class 4
Number of Main Tracks	One main track
Maximum Speed Freight	49 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	1 -5 MGT

District	Savannah District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG) and Savannah & Atlanta (S&A)
Mileage in Georgia	196.63
FRA Track Class	Class 4
Number of Main Tracks	One / two main tracks
Maximum Speed Freight	49 mph
Maximum Speed Passenger	NA
Wayside Signals	Yes - not entirely
Operational Authority	CTC & Unsignaled Segments
Clearances	Single Stack
Current Traffic Density	15-25 MG



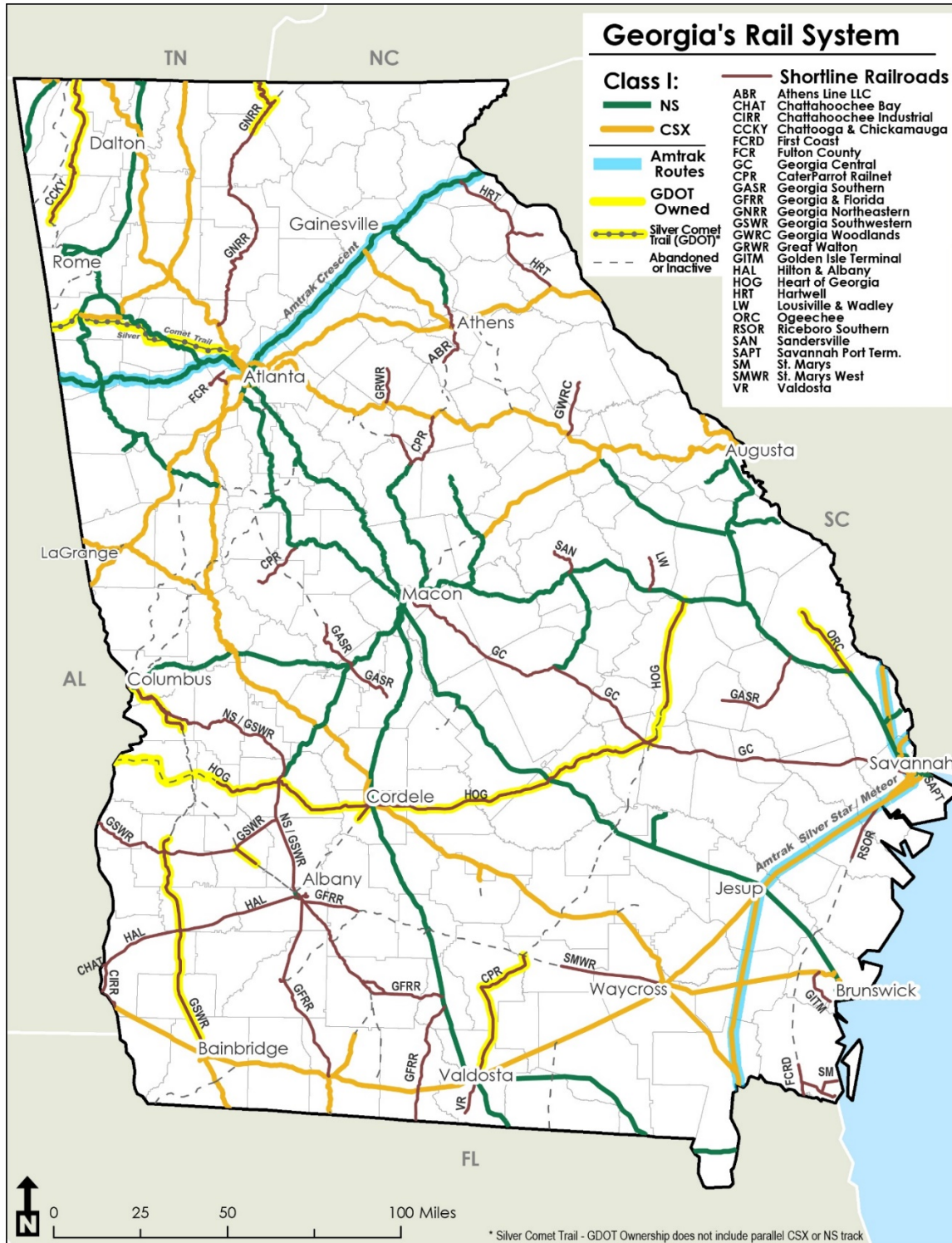
District	Thomaston District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Central of Georgia (CG)
Mileage in Georgia	1
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Speed Freight	25 mph
Maximum Speed Passenger	NA
Wayside Signals	None
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	

District	Valdosta District
Division	Georgia Division
Owner	NS
Operator	NS
Line Heritage	Southern (SOU)
Mileage in Georgia	72.79
FRA Track Class	Class 4
Number of Main Tracks	One / two main tracks
Maximum Speed Freight	60 mph for intermodal; 50 mph freight
Maximum Speed Passenger	NA
Wayside Signals	Automatic Block Signals (ABS)
Operational Authority	Track Authority
Clearances	Double stack compliant
Current Traffic Density	5 - 10 MGT



2. Short Line Railroads

Figure 3: Georgia's Rail System





2.1. Chattooga and Chickamauga Railway

The Chattooga and Chickamauga Railway (CCKY) is a short line rail road in North Georgia. The tracks are owned by the Georgia Department of Transportation and leased to CCKY. CCKY is owned by holding company Genesee & Wyoming. CCKY provides shipments of plastics for use in the carpet industry near Cartersville, GA. In addition, the Tennessee Valley Railroad Museum operates a tourist train along the CCKY on weekends during summer months.

Table 1: Track Data	
Miles of Track Owned	0
Miles of Trackage Rights	48.9
Miles of Out-of-Services Track	0.5
Weight of Rail (lbs)	
90	47.5
≥100	1.5
Non-286K Capable Track	
-Lyerly-Chattanooga Sub	
Total Bridges	22
-Non-286K Capable Bridges	0
Doublestack Restrictions	
-Entire Railroad	

Table 2: Carloads Transported			
Year	Inbound	Outbound	Total
2014	-	741	741
2015	-	855	855
2016	-	950	950
2017	-	1,097	1,097
2018	70	1,245	1,315

Table 3: Rail Operations
Crew
- 1 crew 5 days / week
End to End Transit Time
- 5 to 6 hours
Operating Speed (MPH)
- 10
-

Table 4: Top Commodities Transported (2018)			
Inbound	Carloads	Outbound	Carloads
Plastics	1,160	Plastics	70
Metals	57		
Agricultural Products	24		
Minerals & Stones	4		

P. 22



2.2. Chattahoochee Industrial Railroad

The Chattahoochee Industrial Railroad (CIRR) is a short line rail road operating in rural South Georgia near the border with Alabama. CIRR is owned by holding company Genesee & Wyoming.

TN

NC

Dalton

Atlanta

Augusta

Macon

Albany

Savannah

AL

FL

Table 1: Track Data

Miles of Track Owned

27

Miles of Trackage Rights

0

Miles of Out-of-Services Track

0

Weight of Rail (miles)

100 lbs.

1.3

115 lbs.

14.1

Non-286K Capable Track

N/A

Total Bridges

3

-Non-286K Capable Bridges

0

Doublestack Restrictions

-Entire Railroad

Table 2: Carloads Transported

Year

Inbound

Outbound

Total

2014

NA

NA

NA

2015

NA

NA

NA

2016

NA

NA

NA

2017

NA

NA

NA

2018

NA

NA

NA

Table 3: Rail Operations

Crew

- 1 crew 7 days / week

End to End Transit Time

- 20 hours average

Operating Speed (MPH)

- 20

Table 4: Top Commodities Transported (2018)

Inbound

Carloads

Outbound

Carloads

Chemicals

No Data

Paper

No Data

Coal

No Data

Pulp

No Data

Metals

No Data



2.3. CaterParrott Railnet

CarterParrott Railnet (CPR) is a regional rail carrier serving four rail lines and eleven counties in Georgia.

The map displays the state of Georgia with its rail network. Neighboring states are labeled: TN (Tennessee) to the northwest, NC (North Carolina) to the north, SC (South Carolina) to the northeast, AL (Alabama) to the west, and FL (Florida) to the south. Major cities are marked: Dalton, Atlanta, Augusta, Macon, Albany, and Savannah. The CaterParrott Railnet routes are highlighted in red, showing a network connecting several key locations across the state, including a line from Dalton to Atlanta, a line from Atlanta to Macon, and a line from Macon to Albany.

Table 1: Track Data	
Miles of Track Owned	0.9
Miles of Trackage Rights	94.8
Miles of Out-of-Services Track	0
Weight of Rail (miles)	
<115 lbs.	84.1
115 lbs.	10.7
Non-286K Capable Track	
- E line and V line	
Total Bridges	11
- Non-286K Capable Bridges	0
Doublestack Restrictions	
- None	

Table 2: Carloads Transported			
Year	Inbound	Outbound	Total
2014	1,216	527	1,743
2015	1,340	429	1,769
2016	1,687	414	2,101
2017	1,585	430	2,015
2018	1,392	471	1,863

Table 3: Rail Operations	
Crew	
- Madison Division M,W,F	
- Thomaston Division T-Th, Sat	
- Valdosta Division F	
End to End Transit Time	
- No Data	
Operating Speed (MPH)	
- 10 – 25	

Table 4: Top Commodities Transported (2018)			
Inbound	Carloads	Outbound	Carloads
Wood Chips	1,188	N/A	N/A
Paper	322		
Lumber	305		
Seeds, (Corn, Millo, Millet)	287		



2.4. First Coast Railroad

The First Coast Railroad (FCRD) is a short line rail road operating in rural South Georgia near the border with Florida. FCRD is owned by holding company Genesee & Wyoming.

TN

NC

Dalton

Atlanta

Augusta

Macon

Albany

Savannah

SC

AL

FL

Table 1: Track Data

Miles of Track Owned

-

Miles of Trackage Rights

-

Miles of Out-of-Services Track

-

Weight of Rail (miles)

-No Data

-No Data

Non-286K Capable Track

-No Data

Total Bridges

-

-Non-286K Capable Bridges

-

Doublestack Restrictions

-No Data

Table 2: Carloads Transported

Year

Inbound

Outbound

Total

2014

No Data

No Data

N/A

2015

No Data

No Data

N/A

2016

No Data

No Data

N/A

2017

No Data

No Data

N/A

2018

No Data

No Data

N/A

Table 3: Rail Operations

Crew

- 2 trips per day 2 days per week

End to End Transit Time

-2.5 hours

Operating Speed (MPH)

- 10

Table 4: Top Commodities Transported (2018)

Inbound

Carloads

Outbound

Carloads

Aggregates

No Data

Pulp and Paper

No Data

Chemicals

No Data

Construction Materials

No Data

Plastics

No Data



2.5. Georgia Central Railway

The Georgia Central Railway (GC) is a short line rail road operating in rural South Georgia. The line runs between Macon and Savannah. GC is owned by holding company Genesee & Wyoming.

A map of the state of Georgia with its county boundaries and major cities labeled. A red line represents the Georgia Central Railway route, starting in Macon and extending eastward to Savannah. Neighboring states are labeled: TN (Tennessee) to the north, NC (North Carolina) to the northeast, SC (South Carolina) to the east, AL (Alabama) to the west, and FL (Florida) to the south. Major cities shown include Dalton, Atlanta, Augusta, Macon, Albany, and Savannah.

Table 1: Track Data	
Miles of Track Owned	-
Miles of Trackage Rights	211
Miles of Out-of-Services Track	-
Weight of Rail (miles)	
≤ 115 lbs.	40
132 lbs.	130
Non-286K Capable Track	
-None	
Total Bridges	NA
-Non-286K Capable Bridges	NA
Doublestack Restrictions	
-None	

Table 2: Carloads Transported			
Year	Inbound	Outbound	Total
2014	No Data	No Data	NA
2015	No Data	No Data	NA
2016	No Data	No Data	NA
2017	No Data	No Data	NA
2018	No Data	No Data	NA

Table 3: Rail Operations	
Crew	
- Macon, 2-3 trips per day 6 days per week	
- Savannah, 3 trips per day 6 days per week	
End to End Transit Time	
-2 days	
Operating Speed (MPH)	
- 13.5	

Table 4: Top Commodities Transported (2018)			
Inbound	Carloads	Outbound	Carloads
Chemicals	No Data	Fertilizers	No Data
Farm Products	No Data	Plastics	No Data
Forest Products	No Data	Paper Products	No Data
Metals	No Data		
Pulp	No Data		



2.6. Golden Isle Terminal Railroad

The Golden Isle Terminal Railroad (GITM) is a short line rail road operating in rural South Georgia. It is owned by holding company Genesee & Wyoming. GITM provides service to the Port of Brunswick and interchanges with both CSX and NS at Anguilla, GA.

A map of the state of Georgia, showing its major cities and rail network. The cities labeled are Dalton, Atlanta, Augusta, Macon, Albany, and Savannah. The map also shows the state boundaries with neighboring states: Tennessee (TN) to the north, North Carolina (NC) to the northeast, South Carolina (SC) to the east, Florida (FL) to the south, and Alabama (AL) to the west. A red line in the southeast corner of the state indicates the location of the Golden Isle Terminal Railroad.

Table 1: Track Data	
Miles of Track Owned	-
Miles of Trackage Rights	53
Miles of Out-of-Services Track	-
Weight of Rail (miles)	
No Data	-
No Data	-
Non-286K Capable Track	
NO Data	
Total Bridges	-
-Non-286K Capable Bridges	-
Doublestack Restrictions	
No Data	

Table 2: Carloads Transported			
Year	Inbound	Outbound	Total
2014	No Data	No Data	NA
2015	No Data	No Data	NA
2016	No Data	No Data	NA
2017	No Data	No Data	NA
2018	No Data	No Data	NA

Table 3: Rail Operations
Crew
- 2 trips per day 6 days per week
End to End Transit Time
- 2 hours
Operating Speed (MPH)
- 10

Table 4: Top Commodities Transported (2018)			
Inbound	Carloads	Outbound	Carloads
Chemicals	No Data		
Vehicles	No Data		



2.7. Georgia Northeastern Railroad

The Georgia Northeastern Railroad (GNRR) is a short line rail road operating in North Georgia. GNRR is owned by parent company, Patriot Rail. Part of the line runs on state owned track. The Blue Ridge Scenic Railroad operates a tourist line on the state owned portion. Freight trains operate portion owned by GNRR.

A map of the state of Georgia with its county boundaries. A red line, representing the Georgia Northeastern Railroad, runs north-south through the northern part of the state, starting near Dalton and passing through Atlanta. Major cities labeled include Dalton, Atlanta, Augusta, Macon, Albany, and Savannah. Neighboring states are labeled: TN (Tennessee) to the north, NC (North Carolina) to the northeast, SC (South Carolina) to the east, AL (Alabama) to the west, and FL (Florida) to the south.

Table 1: Track Data

Miles of Track Owned	56
Miles of Trackage Rights	38
Miles of Out-of-Services Track	15
Weight of Rail (miles)	
No Data	-
No Data	-
Non-286K Capable Track	
- Entire line	
Total Bridges	44
- Non-286K Capable Bridges	0
Doublestack Restrictions	
-None	

Table 2: Carloads Transported

Year	Inbound	Outbound	Total
2014	-	-	5,512
2015	-	-	5,386
2016	-	-	5,408
2017	-	-	5,262
2018	-	-	5,700

Table 3: Rail Operations

Crew
- GNRR 3 trains per day 5 days per week
- BRSE 1 trip per day and 2 per day on weekends during season
End to End Transit Time
- Five hours
Operating Speed (MPH)
- 10

Table 4: Top Commodities Transported (2018)

Inbound	Carloads	Outbound	Carloads
Corn	1,308	Granite	1,369
Soy	468	Wall Board	551
		Limestone/Rock	397



2.8. Georgia Southern Railway Company

The Georgia Southern Railway Company (GS) is a short line rail road operating in Georgia. SRP is owned by parent company Pioneer Railcorp. GS operates three segments of track in Georgia. The Ft Valley line runs from Perry, GA to Roberta, GA. The Dover Line from Dover, GA to Metter, GA. The Midville Line runs from Midville, GA to Kirby, Georgia. All three lines are Southeast of Atlanta, GA and located approximately 200 miles west of the Port of Savannah

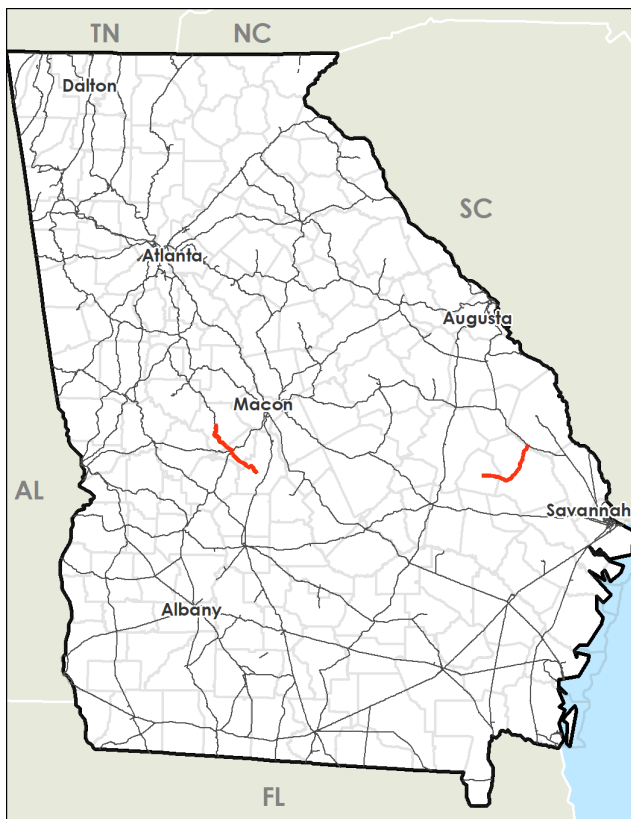


Table 1: Track Data

Miles of Track Owned	0
Miles of Trackage Rights	74
Miles of Out-of-Services Track	0
Weight of Rail (miles)	
≤ 85 lbs.	14
100 lbs.	60
Non-286K Capable Track	
-Midville, GA to Kirby, GA	
Total Bridges	15
-Non-286K Capable Bridges	5
Doublestack Restrictions	
-Midville, GA to Kirby GA	

Table 2: Carloads Transported

Year	Inbound	Outbound	Total
2014	600	2,602	3,202
2015	725	1,912	2,637
2016	725	1,857	2,582
2017	750	2,632	3,382
2018	800	2,769	3,569

Table 3: Rail Operations

Crew

- Dover to Metter, 1 trip per day 4 days per week
- Roberta to Perry, 1 trip per day 4 days per week
- Midville to Kirby, 1 trip per day 1 day per week

End to End Transit Time

- Five hours

Operating Speed (MPH)

- 10

Table 4: Top Commodities Transported (2018)

Inbound	Carloads	Outbound	Carloads
Aggregates	2,000	Lumber	600
Chemicals	500	Scrap Metal	100
Other	250	Grain	100



2.9. Georgia Southwestern Railroad

The Georgia Southwestern Railroad (GSR) is a short line rail road operating in rural Southwest Georgia. GSR leases track owned by the Georgia Department of Transportation. It is owned by holding company Genesee & Wyoming. The GSR has interchanges with Heart of Georgia Railroad, NS, and Hilton & Albany Railroad. The Bainbridge Choice Terminal provides transload service.

A map of the state of Georgia with its major cities and rail network. The Georgia Southwestern Railroad route is highlighted in red, starting from Dalton in the northwest, passing through Atlanta, Macon, Albany, and ending near Savannah in the southeast. The map also shows neighboring states: Tennessee (TN) to the north, North Carolina (NC) to the northeast, South Carolina (SC) to the east, and Florida (FL) to the south. Alabama (AL) is partially visible to the west.

Table 1: Track Data	
Miles of Track Owned	0
Miles of Trackage Rights	66.5
Miles of Out-of-Services Track	0
Weight of Rail (miles)	
- No Data	-
- No Data	-
Non-286K Capable Track	
- None	
Total Bridges	12
-Non-286K Capable Bridges	0
Doublestack Restrictions	
- Entire Railroad	

Table 2: Carloads Transported			
Year	Inbound	Outbound	Total
2014	-	-	7,840
2015	-	-	1,498
2016	-	-	2,130
2017	-	-	2,608
2018	1,053	659	1,712

Table 3: Rail Operations	
Crew	
- MP 95.0 - MP 130.0, one trip per day	
- MP 130.0 – MP 154.5, two trips per week	
End to End Transit Time	
-Segmented operations; do not run end to end.	
Operating Speed (MPH)	
- 10 – 25	

Table 4: Top Commodities Transported (2018)			
Inbound	Carloads	Outbound	Carloads
Misc. Hazmat	333	-	1,053
Stone	167		
Gypsum	115		
Plastics	44		



2.10. Hilton and Albany Railroad

The Hilton and Albany Railroad (HAL) is a short line rail road operating between Hilton, GA and Albany, GA. HAL interchanges with Norfolk Southern in Albany, the Bay Line Railroad in Hilton, the Chattahoochee Industrial Railroad in Hilton, and Georgia Southwestern Railroad in Arlington, GA. HAL is owned by holding company Genesee & Wyoming.

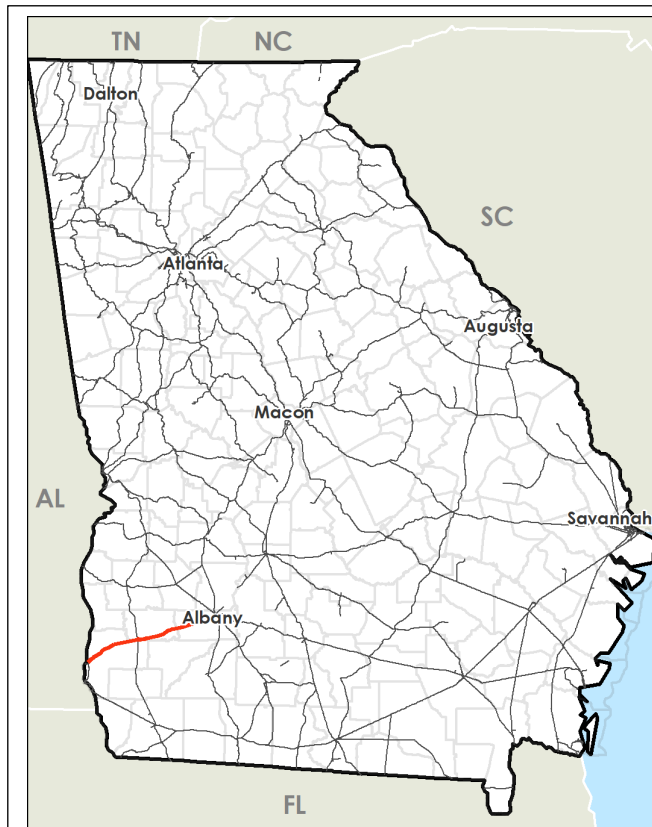


Table 1: Track Data

Miles of Track Owned	-
Miles of Trackage Rights	55.5
Miles of Out-of-Services Track	0
Weight of Rail (miles)	
90 lbs.	23.5
100 lbs.	32
Non-286K Capable Track	
-Entire railroad	
Total Bridges	13
-Non-286K Capable Bridges	0
Doublestack Restrictions	
-Entire railroad	

Table 2: Carloads Transported

Year	Inbound	Outbound	Total
2014	No Data	No Data	NA
2015	No Data	No Data	NA
2016	No Data	No Data	NA
2017	No Data	No Data	NA
2018	No Data	No Data	NA

Table 3: Rail Operations

Crew
- 1 crew 6 days / week
End to End Transit Time
-12 hours
Operating Speed (MPH)
- 25

Table 4: Top Commodities Transported (2018)

Inbound	Carloads	Outbound	Carloads
Chemicals	No Data	Peanuts	No Data
Mineral and Stone	No Data		



2.11. Heart of Georgia Railroad

The Heart of Georgia Railroad (HOG) is a short line rail road operating in rural South Georgia. HOG leases track owned by the Georgia Department of Transportation. HOG is owned by holding company Genesee & Wyoming. The HOG provides connection to the Cordelle Inland Port intermodal yard.

A map of the state of Georgia with its major cities and rail network. A red line highlights the Heart of Georgia Railroad route, starting from Dalton in the northwest, passing through Atlanta, Macon, Albany, and ending in Savannah on the southeast coast. The map also shows neighboring states: Tennessee (TN) to the north, North Carolina (NC) to the northeast, South Carolina (SC) to the east, Alabama (AL) to the west, and Florida (FL) to the south.

Table 1: Track Data	
Miles of Track Owned	0
Miles of Trackage Rights	220.7
Miles of Out-of-Services Track	88.9
Weight of Rail (miles)	
< 90 lbs.	40.3
100 lbs. – 115 lbs.	179.4
Non-286K Capable Track	
-MP 577.8 – MP 659.0	
Total Bridges	65
-Non-286K Capable Bridges	43
Doublestack Restrictions	
-MP 69.5	

Table 2: Carloads Transported			
Year	Inbound	Outbound	Total
2014	NA	NA	7,321
2015	NA	NA	7,711
2016	NA	NA	11,959
2017	6,874	4,491	11,365
2018	4,661	1,861	6,522

Table 3: Rail Operations	
Crew	
- 1 crew 5 days / week	
- 1 crew 6 days / week	
End to End Transit Time	
-Segmented operations; do not run end to end.	
Operating Speed (MPH)	
- 10 – 25	

Table 4: Top Commodities Transported (2018)			
Inbound	Carloads	Outbound	Carloads
Agricultural Products	271	Agricultural Products	197
Chemicals & Plastics	872	Chemicals & Plastics	0
Lumber & Forest	-16	Lumber & Forest	3,904
Minerals & Stones	40	Minerals & Stones	1
Other	687	Other	559
Petroleum Products	7	Petroleum Products	0



2.12. Ogeechee Railroad Company

The Ogeechee Railroad Company (ORC) is a short line rail road operating in Georgia between Ardmore, GA and Sylvania, GA.

Table 1: Track Data	
Miles of Track Owned	0
Miles of Trackage Rights	22.3
Miles of Out-of-Services Track	0.2
Weight of Rail (miles)	
85 lbs.	11.6
90 lbs.	10.6
Non-286K Capable Track	
-None	
Total Bridges	1
-Non-286K Capable Bridges	0
Doublestack Restrictions	
-None	

Table 2: Carloads Transported			
Year	Inbound	Outbound	Total
2014	69	104	173
2015	54	180	234
2016	18	44	62
2017	0	167	167
2018	0	145	145

Table 3: Rail Operations	
Crew	- Three trains per week one-way
End to End Transit Time	- Two hours
Operating Speed (MPH)	- 10

Table 4: Top Commodities Transported (2018)			
Inbound	Carloads	Outbound	Carloads
		Limestone	110
		Potassium Chloride	12
		Fertilizer	4
		Ammonium Sulfate	3



2.13. Riceboro Southern Railway

The Riceboro Southern Railway (RSOR) is a short line rail road operating in South Georgia near Savannah. RSOR is owned by holding company Genesee & Wyoming. The line interchanges with CSX in Richmond Hill, GA.

TN

NC

Dalton

Atlanta

Augusta

Macon

Savannah

Albany

AL

FL

Table 1: Track Data

Miles of Track Owned

-

Miles of Trackage Rights

22

Miles of Out-of-Services Track

-

Weight of Rail (miles)

-No Data

-No Data

Non-286K Capable Track

-None

Total Bridges

-

-Non-286K Capable Bridges

-

Doublestack Restrictions

-None

Table 2: Carloads Transported

Year

Inbound

Outbound

Total

2014

No Data

No Data

NA

2015

No Data

No Data

NA

2016

No Data

No Data

NA

2017

No Data

No Data

NA

2018

No Data

No Data

NA

Table 3: Rail Operations

Crew

- 2 trips per day, 5 days per week

End to End Transit Time

-Two hours

Operating Speed (MPH)

- 10

Table 4: Top Commodities Transported (2018)

Inbound

Carloads

Outbound

Carloads

Chemicals

-

Paper Products

-

Pulp

-

0



2.14. Savannah Port Terminal Railroad

The Savannah Port Terminal Railroad (SAPT) is a short line rail road operating at the Port of Savannah. SAPT is owned by holding company Genesee & Wyoming. SAPT provides connectivity to the Garden City Terminal at the Port of Savannah and interchanges with both NS and CSX

TN

NC

Dalton

Atlanta

Augusta

Macon

Albany

Savannah

AL

FL

SC

Table 1: Track Data

Miles of Track Owned

-

Miles of Trackage Rights

18

Miles of Out-of-Services Track

-

Weight of Rail (miles)

- No Data

-

- No Data

-

Non-286K Capable Track

- No Data

Total Bridges

-

-Non-286K Capable Bridges

-

Doublestack Restrictions

-No Data

Table 2: Carloads Transported

Year

Inbound

Outbound

Total

2014

No Data

No Data

NA

2015

No Data

No Data

NA

2016

No Data

No Data

NA

2017

No Data

No Data

NA

2018

No Data

No Data

NA

Table 3: Rail Operations

Crew

- 7 Days per week 24 hours per day

End to End Transit Time

-NA

Operating Speed (MPH)

- 10

Table 4: Top Commodities Transported (2018)

Inbound

Carloads

Outbound

Carloads

Intermodal

-

Pulp & Paper

-

Food / Kindred

-

Chemical

-

Petroleum

-



2.15. Southern Electric Railroad Company

Southern Electric Railroad Company (SERX) is a short line rail road in Rincon, GA. SERX is owned by parent company Southern Company. SERX owns no equipment, Norfolk Southern currently operates all trains over SERX via Trackage Rights

A map of Georgia showing its rail network. Major cities labeled include Dalton, Atlanta, Augusta, Macon, Albany, and Savannah. The map also shows the state boundaries with neighboring states: Tennessee (TN), North Carolina (NC), South Carolina (SC), Alabama (AL), and Florida (FL). The Atlantic Ocean is visible to the east.

Table 1: Track Data

Miles of Track Owned	2.5
Miles of Trackage Rights	0
Miles of Out-of-Services Track	0
Weight of Rail (miles)	
115 lbs.	2.5
Non-286K Capable Track	
-None	
Total Bridges	0
-Non-286K Capable Bridges	0
Doublestack Restrictions	
-None	

Table 2: Carloads Transported

Year	Inbound	Outbound	Total
2014	-	-	2,488
2015	-	-	1,373
2016	-	-	484
2017	-	-	293
2018	-	-	640

Table 3: Rail Operations

Crew
- 2 trips per week
End to End Transit Time
- No Data
Operating Speed (MPH)
- 15

Table 4: Top Commodities Transported (2018)

Inbound	Carloads	Outbound	Carloads
Coal	487		
Scrap Paper/Pulp	153		



2.16. St. Marys Railroad

St. Marys Railroad (SM) is a short line rail road operating in South Georgia near the Florida border. SM is owned by Boatright Companies. The Railroad is a Class III short line based out of St. Marys, Georgia and connects the small town of Kingsland to the west, about 11 rail-miles away.

TN

NC

Dalton

Atlanta

Augusta

Macon

Albany

Savannah

AL

FL

Table 1: Track Data

Miles of Track Owned

18

Miles of Trackage Rights

0

Miles of Out-of-Services Track

0

Weight of Rail (miles)

90 lbs.

12

100 lbs.

6

Non-286K Capable Track

-None

Total Bridges

3

-Non-286K Capable Bridges

0

Doublestack Restrictions

-None

Table 2: Carloads Transported

Year

Inbound

Outbound

Total

2014

70

577

647

2015

75

1,418

1,493

2016

80

817

897

2017

68

535

603

2018

167

694

941

Table 3: Rail Operations

Crew

- 1 crew 4 days / week

End to End Transit Time

- No Data

Operating Speed (MPH)

- 10 – 20

Table 4: Top Commodities Transported (2018)

Inbound

Carloads

Outbound

Carloads

Pulpboard

452

Lignin Sulfate

73

Poly Pelets

111

Scrap Paper

41

Lignin Sulfate

86

Wood Sugar

9

Rocket Motors

12

Turpentine

9

Wood Sugar

12

Waste Oil

7



2.17. St. Mary's Railway West

St. Mary's Railway West (SMW) is a short line rail road operating in rural South Georgia. SMW mainly stores idle and/or underused railroad equipment such as cars and locomotives.

TN

NC

Dalton

Atlanta

Augusta

Macon

Albany

Savannah

SC

AL

FL

Table 1: Track Data

Miles of Track Owned

35.4

Miles of Trackage Rights

0

Miles of Out-of-Services Track

12.7

Weight of Rail (miles)

90 lbs.

12.1

100 lbs.

22.6

Non-286K Capable Track

-Zionhill to Pearson

Total Bridges

8

-Non-286K Capable Bridges

0

Doublestack Restrictions

-None

Table 2: Carloads Transported

Year

Inbound

Outbound

Total

2014

119

79

198

2015

212

305

517

2016

801

1,060

1,861

2017

682

448

1,130

2018

169

264

433

Table 3: Rail Operations

Crew

- 1 crew 5 days / week

End to End Transit Time

-No Data

Operating Speed (MPH)

- 10

Table 4: Top Commodities Transported (2018)

Inbound

Carloads

Outbound

Carloads

Empty Car

-

Empty Car

-



2.18. Valdosta Railway, L.P

Valdosta Railway (VR) is a short line rail road operating in South Georgia near the Florida border. VR is owned by holding company Genesee & Wyoming. The line connects Clyattville, GA to CSX Transportation and the Norfolk Southern Railway at Valdosta.

TN

NC

Dalton

Atlanta

Augusta

Macon

Savannah

Albany

AL

FL

Table 1: Track Data

Miles of Track Owned

-

Miles of Trackage Rights

14

Miles of Out-of-Services Track

0

Weight of Rail (miles)

80 lbs.

1

115 lbs.

10

Non-286K Capable Track

-None

Total Bridges

0

-Non-286K Capable Bridges

0

Doublestack Restrictions

-None

Table 2: Carloads Transported

Year

Inbound

Outbound

Total

2014

No Data

No Data

NA

2015

No Data

No Data

NA

2016

No Data

No Data

NA

2017

No Data

No Data

NA

2018

No Data

No Data

NA

Table 3: Rail Operations

Crew

- No Data

End to End Transit Time

- No Data

Operating Speed (MPH)

- No Data

Table 4: Top Commodities Transported (2018)

Inbound

Carloads

Outbound

Carloads

Agricultural Products

No Data

Plastics

No Data

Chemicals

No Data

Forest Products

No Data

Pulp

No Data

APPENDIX C: Economic Impact Analysis

**GEORGIA
STATE RAIL
PLAN - 2021**





Economic Impact of Rail in Georgia

December 1, 2019

Prepared for:

WSP, Georgia State Rail Plan

Prepared by:

EDR Group, an EBP Company

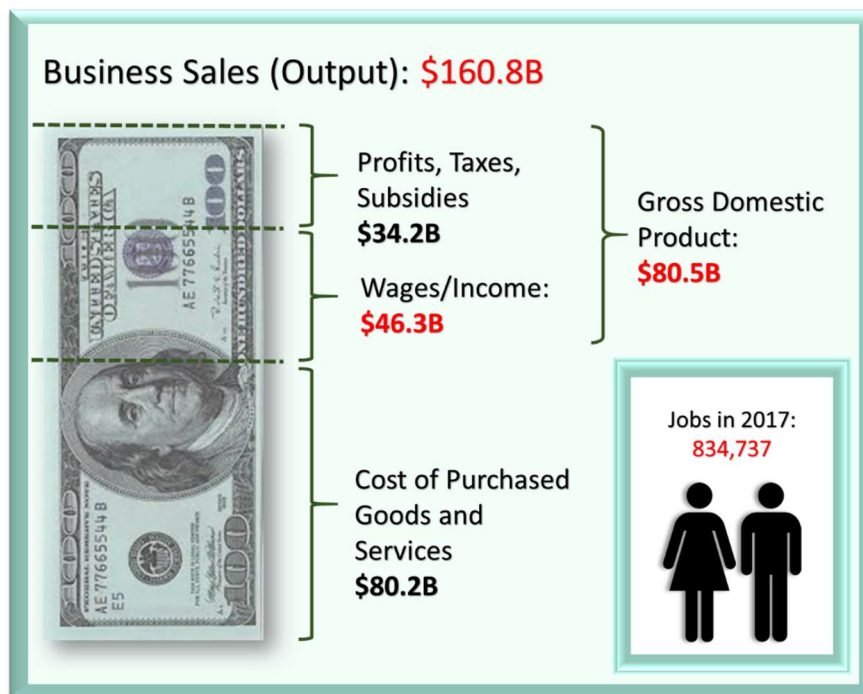
Table of Contents

1	Summary	1
1.1	Introduction	1
2	Methodology	2
2.1	Terminology	3
2.2	Data Sources and Models	4
2.3	Freight User Methodology	6
2.4	Passenger User Methodology	11
2.5	Freight and Passenger Service Methodology.....	12
3	Linking Freight Rail Usage to Industry	13
3.1	Regional Usage of Rail.....	14
3.2	Domestic Versus International Components	14
3.3	Linkage to Regional Supply and Demand.....	16
4	Rail Economic Impacts.....	18
4.1	Rail Service Impacts	20
4.2	Transport User Impacts.....	22
4.3	Share of State Impacts	26
	Appendix Items.....	27
A.	Waybill Parsing Heuristics	27
B.	Value Per Ton Estimates	28
C.	Comparison to Prior Impacts	29

1 Summary

Rail services in Georgia generate \$160.8 billion dollars of economic output from both the activity they enable in terms of passenger and freight users, and workers employed to ensure provision of services. This \$160.8 billion helps employ over 834,000 workers in the state either directly or indirectly as part of business supply chains or worker spending. This equates to about 834,000 workers (one in seven) in Georgia being directly related to rail (as a provider or user) or indirectly benefitting from its existence. Collectively, these 834,000 workers earn a total of \$46.3 billion of income. In the operation of rail, directly, and indirectly through secondary effects, the state can raise \$6.5 billion in state and local tax revenue through all operators. Figure 1 illustrates the magnitude of rail services' economic impact on Georgia's economy and workforce.

Figure 1. Economic Impact of Rail Services on Georgia



1.1 Introduction

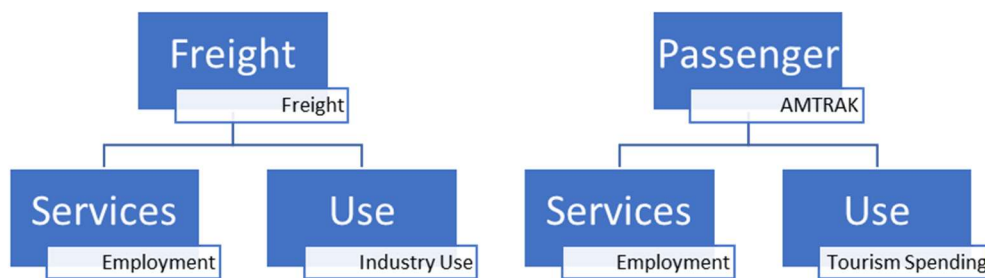
As part of Georgia's broader bid to preserve and enhance the competitiveness of its businesses, rail services are vital to the state economy. In addition to the rail industry operating as a generator of industry employment, rail transportation provides a cost-efficient means of moving freight goods to and from more distant markets. Rail represents a means of sourcing and shipping material inputs to Georgia businesses as well as moving goods to market that places less of an emphasis on congested roadways. This section will talk about the importance of rail as a service, and the ways in which we quantify how the Georgia economy benefits by its continued operations.

2 Methodology

There are multiple ways in which the contributions of rail transportation manifest themselves within Georgia's economy. It is common to stratify these contributions based on service provider versus user as well as broken down based on who they serve in a passenger versus freight context.

Figure 2 highlights this stratification of services according to the kind of behavior being measured.

Figure 2. Determinants of Rail's Economic Impacts – Freight vs. Passenger Rail



In broad terms, we differentiate between the kinds of rail based on its role and population served within Georgia.

Freight rail activity is focused on rail as a service for moving physical goods between markets, and the connection of businesses.

Users are businesses that use rail as part of a broader transportation network supply chain to source and ship goods. This means businesses might rely on rail to get inputs to production, or to move finished units of production to successive markets for either additional value adding, or to consumers (final demand). To this extent we will be trying to capture the portion of industry activity that is tied to the value of goods being moved via rail.

Services represent the employment of workers vital to the operation of freight rail as a service. This would include Class 1, 2, and short haul local rail operators directly involved (i.e. CSXT).

Separate from freight rail's contributions to the state economy, there are also **passenger** related activities.

Users are travelers and tourists who rely on passenger rail services to get to/from the region. These travelers and tourists spend money on local food, lodging, and attractions while in Georgia. This spending by non-Georgia residents represents net new money to the state.

Services represent Amtrak's operations and employees. In addition to these employees, we have represented the investment in an additional IT business by Amtrak within the state

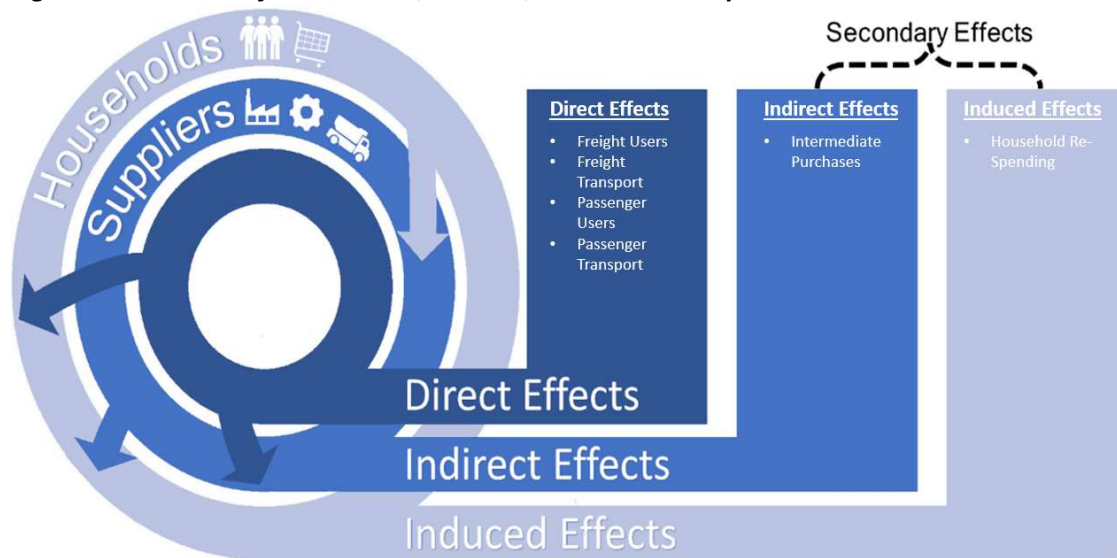
supporting logistical operations that go beyond the state but are contingent to the operation of rail.

Note: Consistent with the 2015 State Rail Plan, industry information contained within IMPLAN (plus Amtrak employment statistics) was used as the basis for quantifying overall levels of passenger and freight service

2.1 Terminology

Because this report examines in detail the ways that rail services support Georgia's economy, it is helpful to explain the terminology used to describe how these activities impact the local economy. The impacts generalize to three types of interactions, which are depicted in Figure 3 below.

Figure 3. Overview of State Direct, Indirect, and Induced Impacts



- **Direct Effects** – result of expenditures associated with the direct employment of workers responsible for the provision of passenger and freight rail services, as well as for the businesses and tourists responsible for using rail to move around the state. All these effects arise from initial purchasing of goods, labor, and materials associated with state rail operation and utilization.
- **Indirect Effects** – represent the purchase of goods and services by suppliers in order to meet the demands of direct activity.
- **Induced Effects** – represent the income earned by workers being re-spent in the economy on household goods and services from the activity generated either directly, or indirectly.

Thus, as indicated by the arrows in the diagram, the direct effects of the provision and usage of rail in the center generate indirect effects because of the need to supply direct activities with goods and services, and induced effects from labor income spending by both direct and indirect workers. Economic activity generated within Georgia results in intermediate purchases of supplies and materials involving the local portion of supply chains and their provision of inputs to production, which have a

further feedback effect as workers, having earned income from their activities either directly or indirectly, purchase goods and services as part of their consumption. All of this was captured using the IMPLAN economic model, which is discussed more under the later 'Data Sources and Models' section.

Functional Definitions of Economic Measures

The following definitions help facilitate the reader's understanding of the components of the measures employed in the following section.

Employment – represents both full-time and part-time jobs within a region for a given industry. This means that one person working multiple jobs may be represented twice if he/she works two part-time jobs.

(Labor) Income – represents not just an employee's level of compensation, but also fringe benefits and proprietor income. It is a measure of all forms of income gained from employment.

Value Added (GDP) – is measured as the difference between an industry's economic output, and the value of intermediate inputs to its production process. Value added is the combination of labor costs, taxes, and any other proprietor or property income. It focuses on new production net of purchased inputs.

Output – Represents the total measure of economic activity for an industry in a region. This measure is computed as the cost of intermediate inputs of production for the industry, plus any value-added activity.

2.2 Data Sources and Models

To present a complete picture of all the ways rail serves the needs of the Georgia economy, several different data sources were combined to flesh out the analysis to build a complete picture. The following is a list of the sources used as part of the analysis, broken out between their usages between the passenger and freight components of the

- ✓ Waybill Sample (F)
- ✓ IMPLAN (F, P)
- ✓ Transearch (F)
- ✓ FAF (F)
- ✓ Amtrak Data and State Impact Profiles (P)
- ✓ NTAD Geospatial data on Ports, Intermodal Facilities (F)

(Where: **F** = Freight, **P** = Passenger, indicating the use of the data within the pieces of analysis.)

- **Waybill Sample** – represents a stratified sample of carload waybills for all US rail traffic, submitted by rail carriers terminating 4,500 or more revenue carloads annually¹. These detailed data represent rail flows at or below a county level of detail, with further information on operational characteristics, types of commodities being moved (based on a 4-digit Standard

¹ https://www.stb.gov/stb/industry/econ_waybill.html

Transportation Commodity Classifications – STCC) with information related to routing and movement of goods in relation to the state (of Georgia) presented in an Origin-Destination format. The volume of activity is presented in terms of carloads and tonnage – but does not capture the value of those commodities being shipped via rail. We will be relying on 2017 STB Waybill data as the basis of this analysis.

- **IMPLAN** – Is an economic impact assessment software system. The system was originally developed and is now maintained by the Minnesota IMPLAN Group (MIG). It combines a set of extensive databases concerning economic factors, multipliers and demographic statistics with a highly refined and detailed system of modeling software. IMPLAN allows the user to develop local-level input-output models that can estimate the economic impact of new firms moving into an area as well as the impacts of professional sports teams, recreation and tourism, and residential development. The model accomplishes this by identifying direct impacts by sector, then developing a set of indirect and induced impacts by sector through the use of industry-specific multipliers, local purchase coefficients, income-to-output ratios, and other factors and relationships². We will be using matching 2017 economic data from IMPLAN to tie in the accompanying data year of rail activity.
- **Transearch** – Side databases of a similar classification scheme and modal coverage were used as part of the valuation of tonnage moving via rail.
- **Freight Analysis Framework (FAF)** – Represents a more aggregated (with respect to commodity and spatial level of detail), but comprehensive accounting of freight activity in an origin-destination format with explicit modal breakouts that include rail. The FAF data leverages the same Waybill data as a source, as well as provides a reliable parsing of activities as it pertains to domestic versus internationally related traffic necessary to help validate the stratification of movements. Its commodity valuation scheme, however, is based on a 2-digit Standard Classification of Transported Goods (SCTG). We will be using the 2017 provisional FAF updates as a point of comparison in this analysis to the 2017 Waybill data.
- **Amtrak** – provides fiscal year summaries of operating statistics on a state by state basis that serve to summarize the volume of activity and employment associated with their provision of regional services. Additionally, Amtrak supports the periodic assessments of state level rail impacts associated with operations, as well as supported tourism related impacts.
- **National Transportation Atlas Database (NTAD)** – Serves as a repository for annually updated geospatial data. Data concerning the location of intermodal facilities and seaports were used to support the effort of parsing rail activity as complementary sources.

The following sections provide more detail concerning the specific utilization of the above sources of data and the broader strategy of where to fit them into the broader impact analysis.

² <http://cier.umd.edu/RGGI/documents/IMPLAN.pdf>

2.3 Freight User Methodology

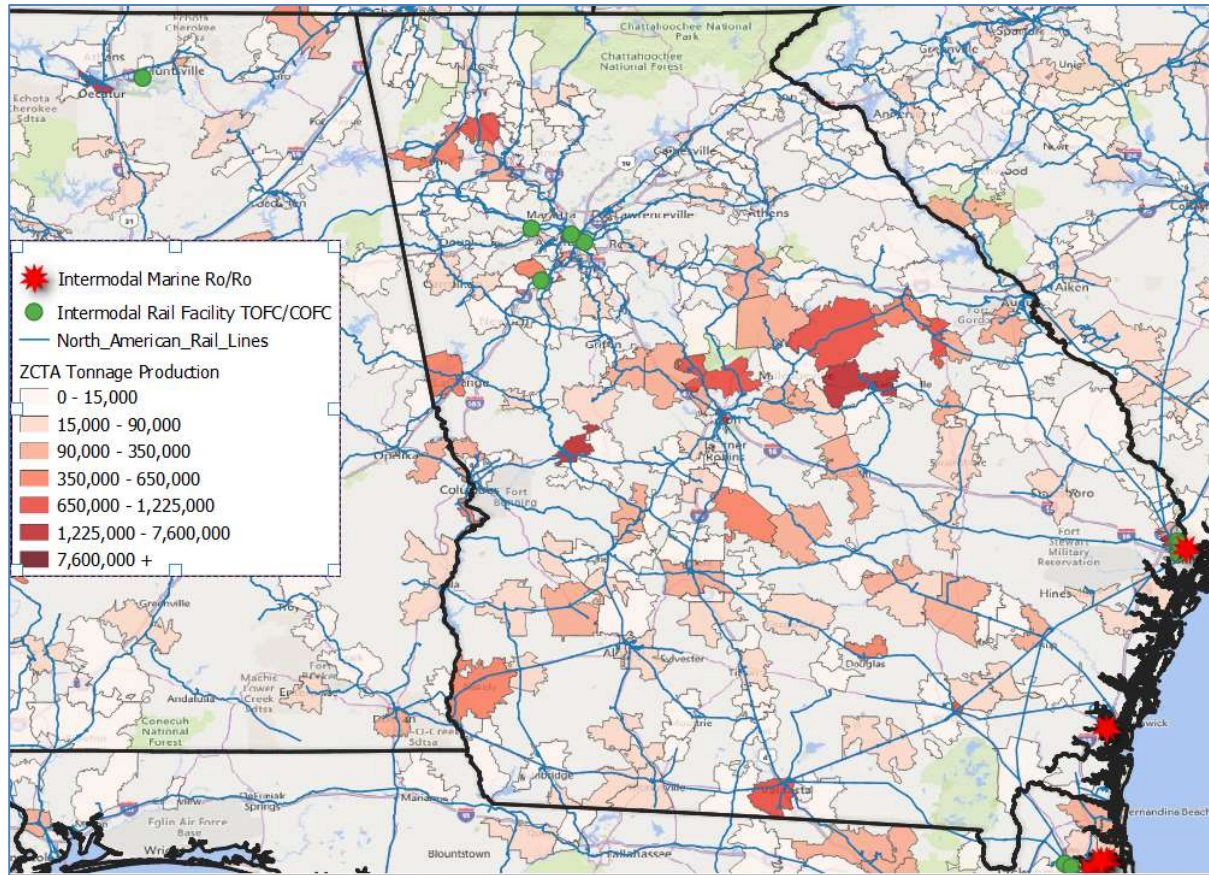
Having gained an understanding of the available sources of data to be used to conduct this study, this section discusses the purpose and procedures we use to enable us to pivot from volumes of freight movements to describing the magnitude and mix of businesses involved in the production and consumption of those commodities moving via rail. In this section, we will break down the work into three steps representing critical milestones in the analysis. First, we will discuss the steps involved in parsing and refining the freight data. Second, we will present a summary of some of the high-level patterns being communicated, as they pertain to important features within the Georgia economy. Third we will estimate the value of goods being shipped via rail by tying waybill data to alternate sources. Finally, we will talk about how these results were applied with the help of the data in the Implan model to derive a valuation of the economic effects presented in the later economic impacts section. The advantage of this methodology is that it leverages the strengths of each dataset, while giving a flexible system that also provides a ready-made basis for forecasting and scenario analysis by classifying freight according to how it fits in within the economic structure of the state and how industries use the goods.

Parsing the (Use) Data

There is often a dichotomy in representation when talking about quantifying and representing freight activity that is based on its usage to answer different kinds of questions. When talking about current activity from a transportation perspective it is often enough to characterize movements based on an inbound/outbound/internal/ and through basis as it relates to whether combinations of origins and destinations lay within Georgia. When we talk about freight dependence and the role a freight move plays within an economy, however, we need to take this a step further so that we can ultimately talk about which industries are involved in these movements. This means differentiating between flows that spatially involve Georgia as an intermediate step in a broader move, versus flows that ultimately tie into local businesses within Georgia directly. For example, a freight move originating in California and terminating in Georgia might be easily understood as an inbound freight flow for the state. From a freight planning perspective that is an adequate description because it captures the usage of infrastructure. However, from an economic context, depending on the location of the origin point in California and of the destination point, that same flow could just as easily be:

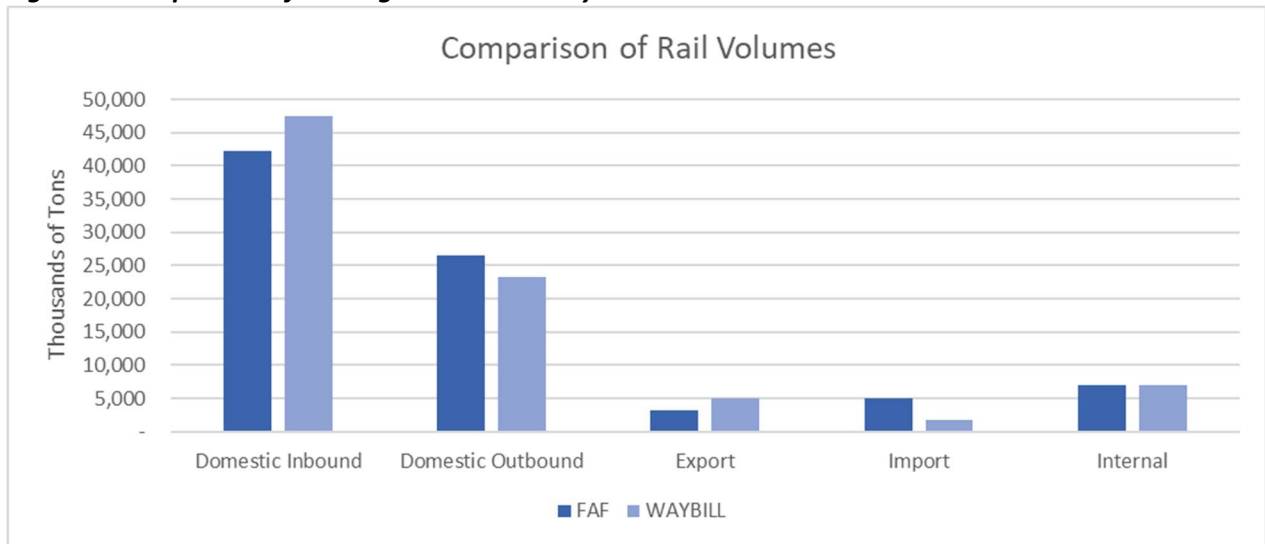
- A through flow, where California is exporting goods via a port in Georgia. This does not impact any of the local businesses typically involved in that commodity
- An inbound flow where businesses and households in Georgia purchased goods from California
- An import flow of goods that entered into the country via a port in California and are destined for some combination of households and businesses in Georgia.

As you can imagine, how these goods are used (if at all) within the economy varies greatly based on our ability to categorize which of the above best represents the ultimate purpose of the flow. Mechanically at its most precise level of detail, the waybill sample can produce origin and termination flows at a zip code level. This means that we can use more sophisticated methodologies that leverage geospatial data because we are operating at spatial units of detail that are more precise than the typical county level that other more freely available sources of data might have to offer.

Figure 4. Overlay of Intermodal Facilities and Waybill Data

To achieve a more nuanced stratification, we leveraged geospatial data from the National Transportation Atlas Database (NTAD) on the point location of rail intermodal terminals and ports to see where waybill zip codes representing start and end points of rail moves fell in relation to the above facilities. A series of heuristics were programmed to classify flows accordingly to give an appropriate breakout under the assumption that trade related flows were more likely to occur at or near ports. The specific set of logic conditions used has been included in the appendix as section A.

As a method of validating the work done on enhancing the parsing of the freight data, the processed waybill data was then compared to the available 2017 FAF data for rail. This comparison of the tonnages was a robustness check to make sure that the methodology applied added necessary detail while still agreeing with other known sources of data and the patterns being presented. The following tonnage graph, Figure 5, depicts a side by side comparison with FAF data by direction of movement (in relation to Georgia).

Figure 5. Comparison of Tonnages Between Waybill and FAF

As shown in Figure 5, the volume of goods, post parsing methodology, aligns well with FAF breakout. This would imply a level of fit that preserves the best parts of the waybill data, while classifying it in a more nuanced way that gives it more use while still being able to be validated against other sources of freight data. This step yields a stable dataset that parses freight flows in relation to the region so that once we estimate the value of goods shipped, puts us ever closer to relating to our economic models.

Estimation of Value

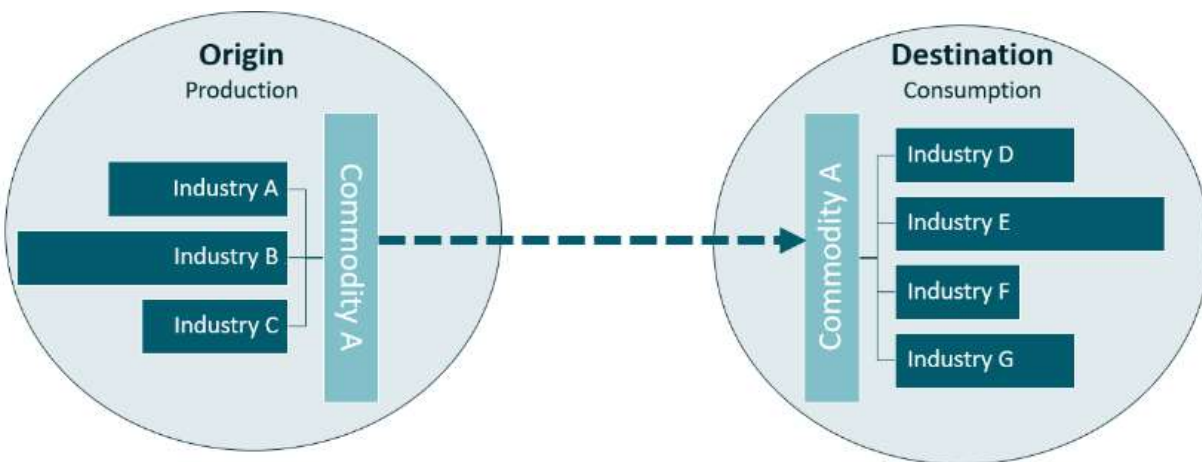
In order to quantify the value of rail activity in the state economy, the team needed a way of switching away from the normal freight metrics typically associated with statewide plans (such as number of vehicles and tonnage of goods moving) to a metric that may be used in an input output context to discuss the value these movements add to the regional economy. This means arriving at an estimation of the value of goods being shipped in terms of dollars over the usual tonnage metrics. While the waybill data is unparalleled in its level of operational detail, this is something of a critical measurement that is lacking (and required).

In order estimate the value of goods shipped, a defensible estimate of the value per ton of a given commodity must be applied to the waybill tonnages to arrive at the value of goods being shipped. To this effect, Transearch data offers the same STCC commodity classification with the necessary variables to derive a value per ton ratio for the waybill. The 2013 Georgia Transearch data was evaluated and deemed not suitable – it did not possess the explicit rail modes and was old enough that valuations based off it were problematic. As a proxy, 2015 data from another state for which the team possessed rail data was used as a proxy to produce the values. Additionally, there were 4.7 million tons of hazardous materials that were not valued, as they had no discernable value. Similarly, another 451,720 tons worth of shipping containers (returned, empty) were moving via rail. The appendix item shows a detailed summary of the value per ton estimates that resulted from the use of the data.

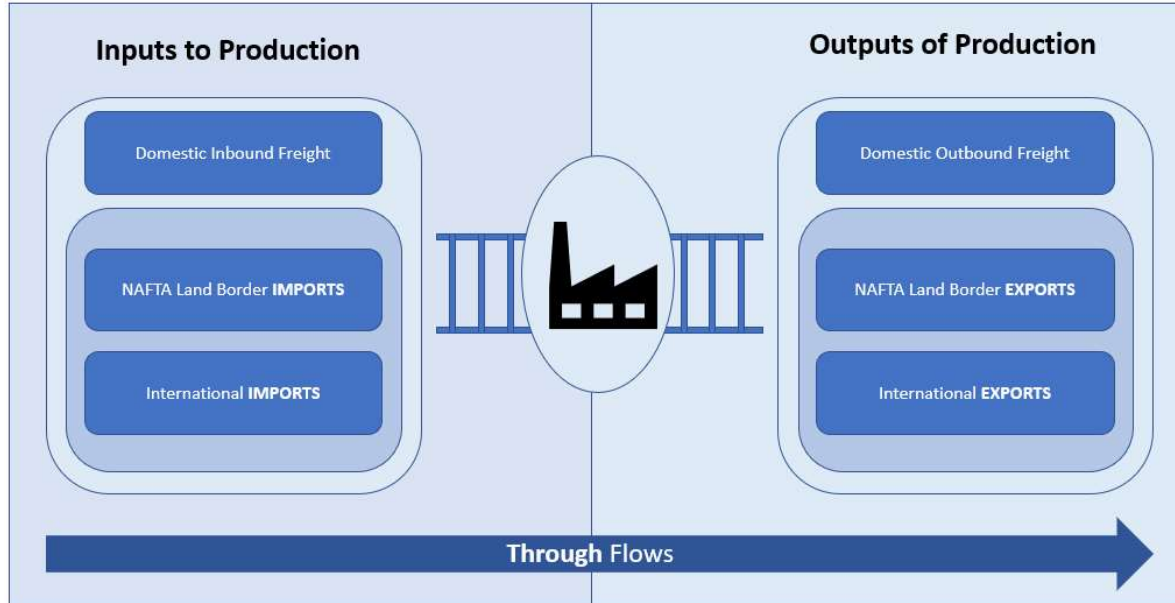
Linking Flows to Freight Users

With the application of the preceding steps, a cleaned and benchmarked dataset of data is produced that estimates the value of commodities coming into and going out of the region, by combining several different kinds of data sources. This leaves us with the task of defining the ways in which these commodities are used – a task that is best done using input output data such as those featured within IMPLAN. At its heart, IMPLAN is an input output model – a system of accounting which communicates the flow of goods between industries within a region. Much like a cookbook, these input output models tell the savvy user about the production function of a given industry. This is crucial, because if we think about freight in its purest form, it is nothing more than the physical enactment of those inter-industry transactions. Put differently, economies trade with one another: and freight activity is the means enabling those goods to move. The above diagram summarizes this relationship. A commodity is produced at a place of origination by one or more industries, and shipped to its ultimate destination, whereby it is consumed by one or more (potentially different) industries as inputs to their production, or as final demand for households. The challenge with this analogy is that the commodity flows between industries in IMPLAN, and the commodities being characterized in the Waybill data are tracked using different codes. TREDIS has an integration module with a native algorithm that builds a crosswalk between the sectoring schemes used in IMPLAN, and freight databases such as Transearch and Waybill (which share a common STCC sectoring scheme) that enable the pivoting from a freight scheme, to the common economic scheme used to interface with its economic models.

Figure 6. The Relationship of Commodity Movements and Industry



With this commonality being achieved between freight and economic models, the value of goods flowing from the rail data could be fit into the economy. To do so, it was necessary to codify the movements of goods between those that serve as inputs to production, versus those that are the outputs from production. The diagram below explicitly shows how the flow of goods line up to stages of production.

Figure 7. The Relationship of Directional Freight Flows to Industry Activity

Note that the flow of goods through a region do not interface with industries in the region, so even if they represent a large volume of cargo, they ultimately have no effect on the state's economy³. Figure 7 also sets the stage for an important point to be made regarding the magnitude of freight and economic flows: in almost all cases, the value of goods shipped severely exceeds the magnitude of economic activity surrounding the usage of the equivalent commodity for two reasons. The first reason is that reported freight hauls are often segmented portions of much larger, longer trips whose misappropriation of effects can lead to overstatement of contributions in excess of total industry activity. In these cases, adjustments must be made to these anomalies to prevent them from exceeding industry supply for the region. The second reason is that there is the potential for significant double counting regarding role the commodities play within the economy. Consider the following statements:

- The economic value of outbound cargo is equivalent to the economic output of the industries responsible for their production.
- Economic output is definitionally comprised of the cost of any intermediate inputs to production plus any value-added activities done overtop on the part of the industry

This means that to the extent industries rely on rail as a mechanism for both sourcing and shipping goods, there is double counting equal to the component value of intermediate inputs on the outbound flows. This becomes more complicated because of the presence of other modes used in similar capacities, but as a conservative measure the calculations on economic reliance related to outbound flows were adjusted downwards to prevent any double counting by including only the value-added portion of activity. These adjustments, while consistent with the prior report, are done more explicitly to call attention to the state of the practice and the limitations of the data at our disposal.

³ This is an over-simplification. Any impacts which would likely accrue to the region are on the part of rail service providers (which are already being explicitly captured).

2.4 Passenger User Methodology

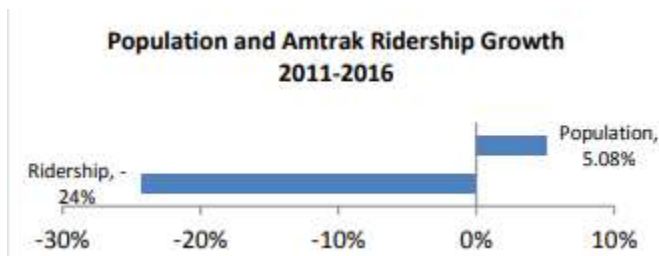
When we reference users of passenger rail services in Georgia, we are discussing tourism-related travelers and their contributions to the state economy in the form of expenditures on associated services and activities. Amtrak puts out an annual summary of state activity profiles as an engagement piece to talk about the local ridership and contributions to the state economy. Historically this visitation data has been combined with local research related to averaged spending profile behavior of surveyed visitors as supported by the work of Longwoods Travel USA. However, beginning in FY2015, Amtrak is now supporting estimates of economic contribution related to enabled tourism as a result of passenger rail services.⁴ These results were used in place of broader statewide averaged assumptions on mode irrelevant spending and behavior, subject to indexing for inflation to bring values to current 2019 dollars.

Table 1. Ridership by Station⁵

During FY18 Amtrak served the following Georgia locations:

<u>City</u>	<u>Boardings & Alightings</u>
<u>Atlanta</u>	72,197
<u>Gainesville</u>	5,032
<u>Jesup</u>	9,461
<u>Savannah</u>	53,769
<u>Toccoa</u>	2,324
Total Georgia Station Usage:	142,783

Figure 8. Change in Ridership



⁴ <https://www.amtrak.com/about-amtrak/amtrak-facts/state-economic-impact-brochures.html>

⁵ Source: Amtrak Fact Sheet (<https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/GEORGIA18.pdf>)

2.5 Freight and Passenger Service Methodology

The final way in which rail transportation contributes to Georgia's economy is through employment. IMPLAN data and its capturing of rail-related activities within the state comprised the backbone of the impact analysis. A complicating factor is this data's lack of differentiation between freight and passenger related activities within the state. Fortunately, Amtrak issues semi-annual fact sheets on a state by state basis that summarize, in addition to passenger ridership, the level of state involvement in terms of employment and investment. This data was used to stratify IMPLAN data between freight and passenger related employment.

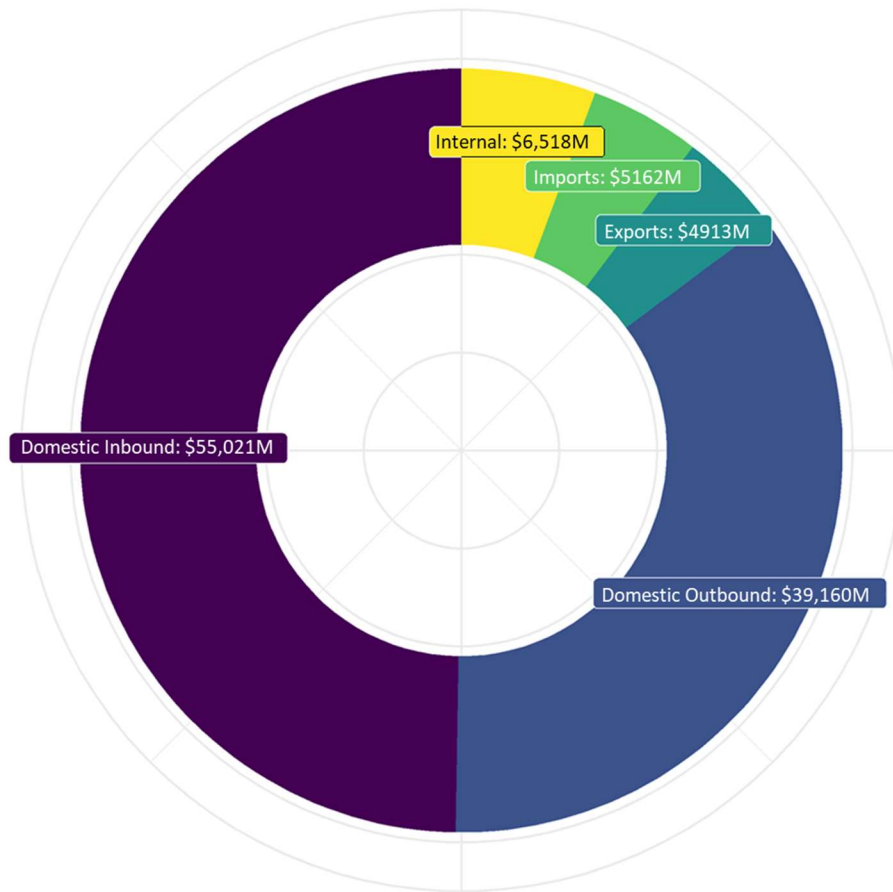
Passenger Rail investment and Operation

According to Amtrak's fact sheets, a total of 83 people was employed in Georgia in passenger rail services. Thirty-three (33) of these employees worked in passenger rail operations, while 50 other employees worked in an IT center outside Atlanta that opened in early 2015.

3 Linking Freight Rail Usage to Industry

Putting the methodology from the prior section in use, we will highlight differences in the markets that interact with Georgia's economy spatially, and with respect to regional specialization of commodities sourced, attempt to break down economic pockets of Georgia that rely on international markets. This section will tie in commodities to the industries that are involved to show explicit linkages. Figure 9 shows the dollar value of freight flowing in and around Georgia. In 2017, \$60.2 billion of goods were shipped into Georgia via rail, with \$55.0 billion of that coming from domestic sources, and another \$5.2 billion from international sources – comprised of land border trade with Canada and Mexico, as well as from international traffic moving intermodally from seaports across the country. Similarly, a total of \$44.1 billion of goods were shipped out of the region: comprising of \$39.2 billion going to domestic consumption, and another \$4.9 billion going to international markets. Another \$6.5 billion worth of goods was produced in the state and used in local markets.

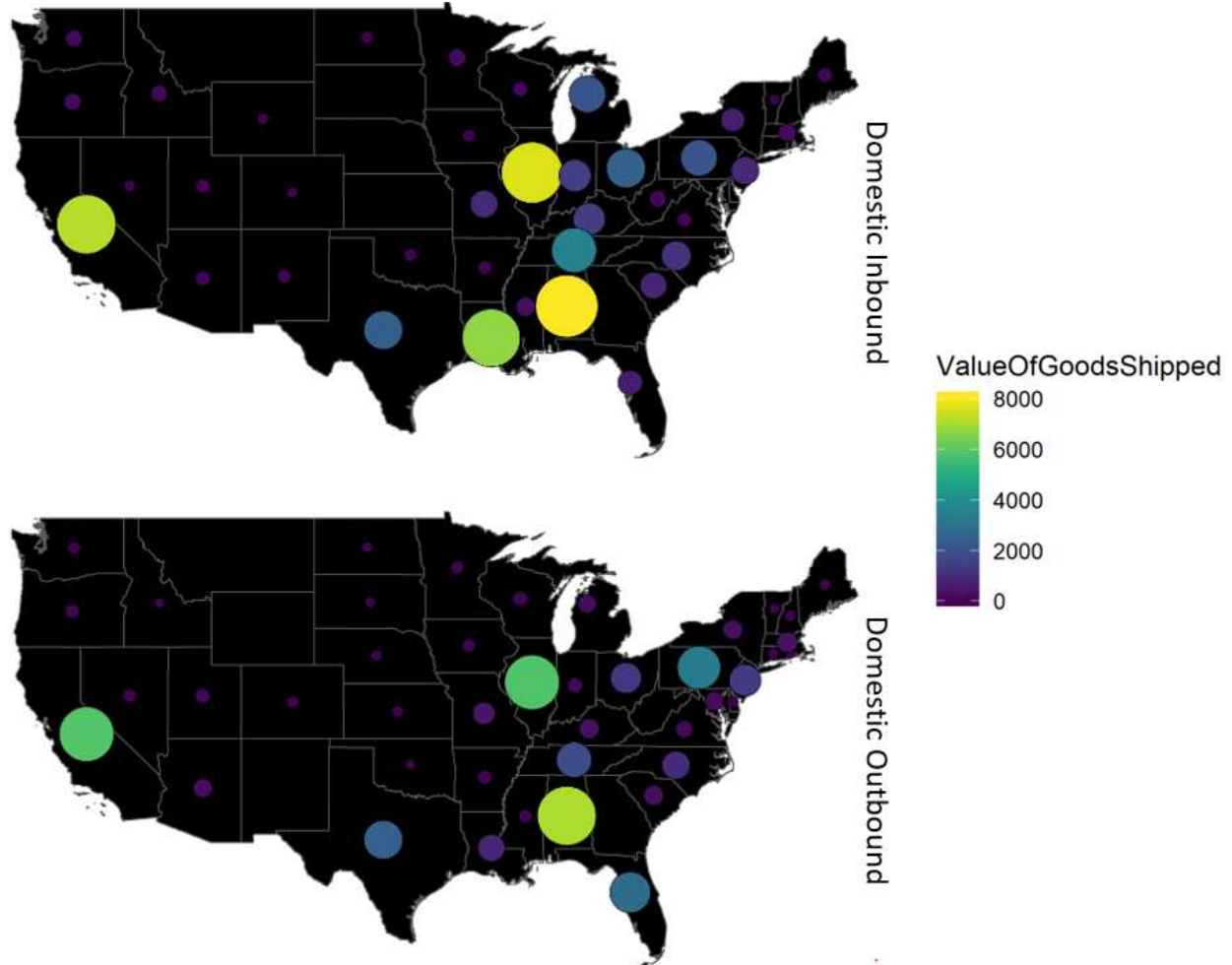
Figure 4. Value of Rail Shipments by Direction of Movement



3.1 Regional Usage of Rail

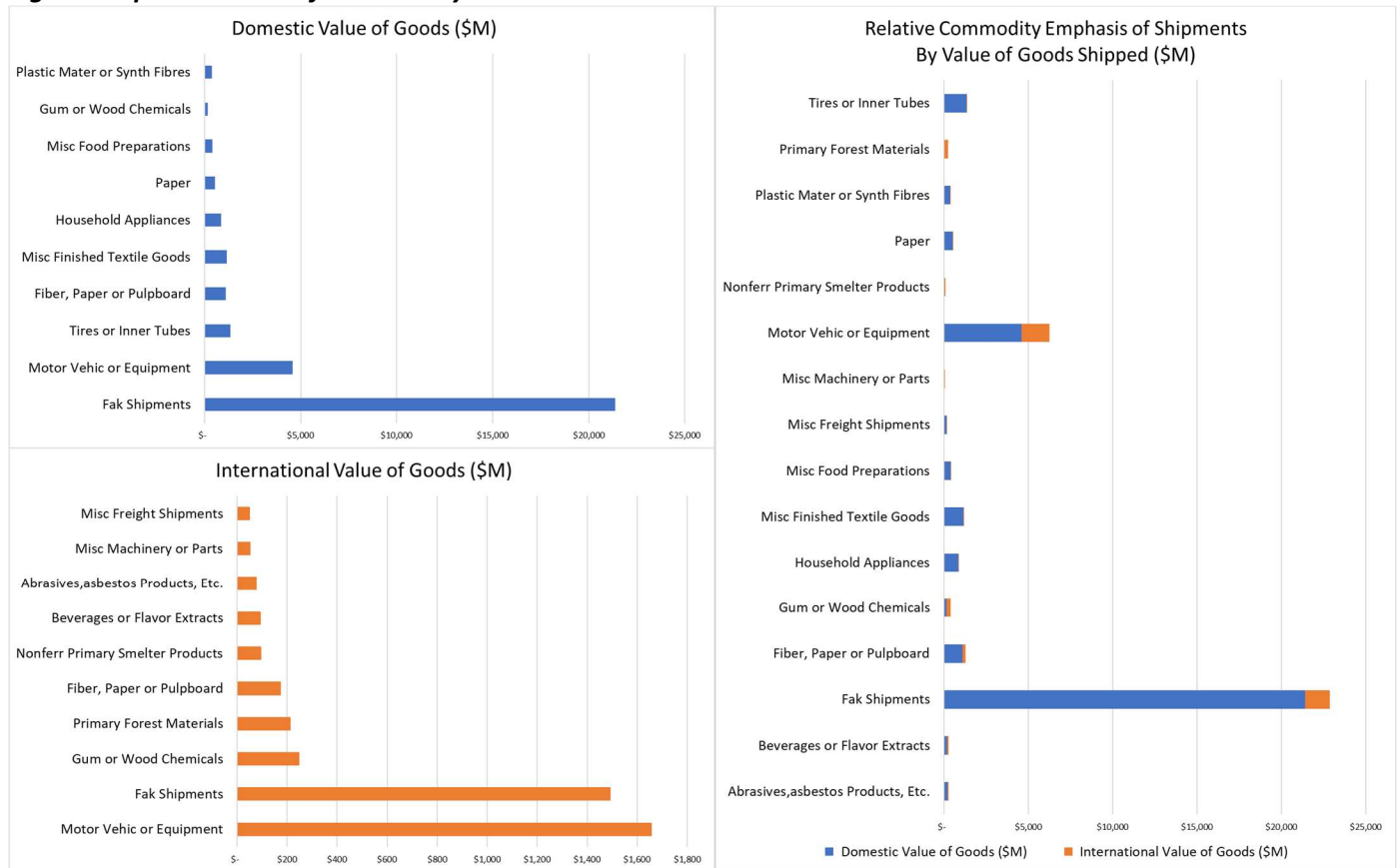
Of the \$60.2 billion worth of goods being transported into Georgia, and the \$44.1 billion being shipped out of the state respectively, there is diversity of geography when it comes to the markets being connected via rail. Figure 10, below, shows the origin of inbound rail flows to Georgia, and destination of outbound domestic flows. States such as Alabama, Illinois, and California serve as large, common domestic trading partners for both intermediate and final goods.

Figure 5. Domestic Trading Partners of Inbound and Outbound Goods (Value of Goods Shipped)

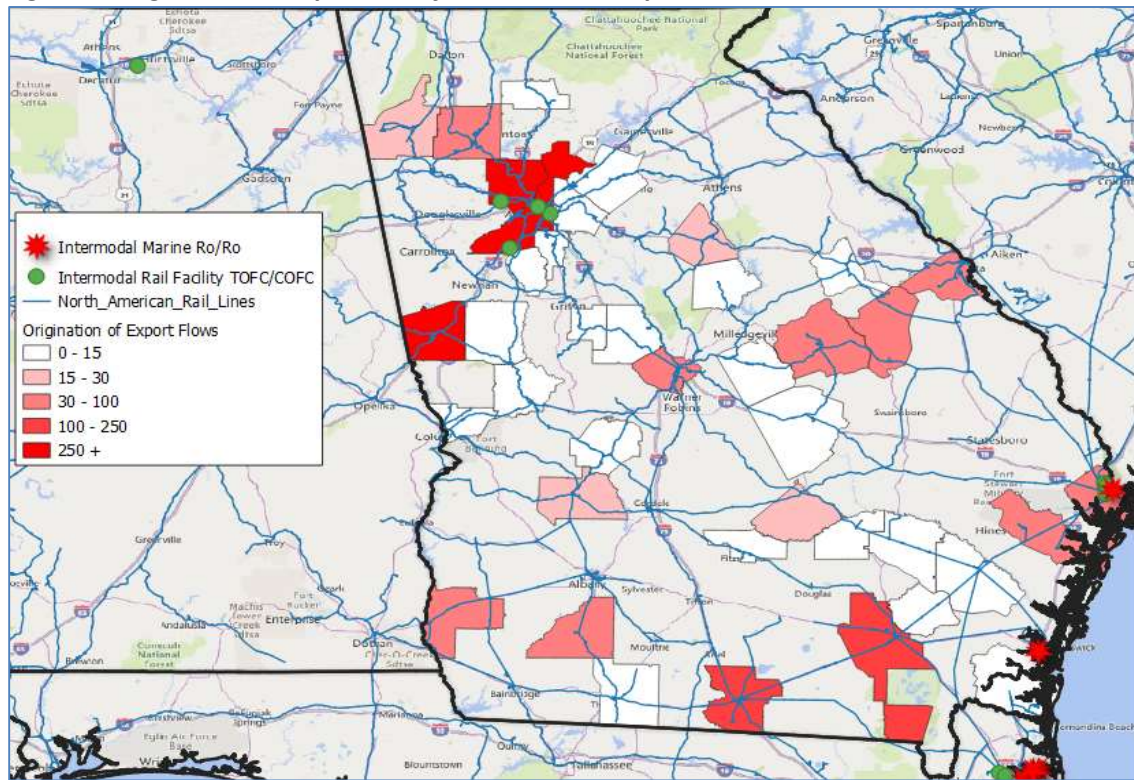


3.2 Domestic Versus International Components

By no means is rail limited to connecting domestic markets. Rail provides critical services not only in cross-border trade with Canada and Mexico, but also as an intermediate means of transport to major international markets vis domestic ports. These markets at times can be quite specialized and distinct in the goods they trade. Implicitly, this means that their emphasis on industries is also different. Figure 11 provides an example of such a situation:

Figure 6. Specialization of Commodity Production: Domestic versus International

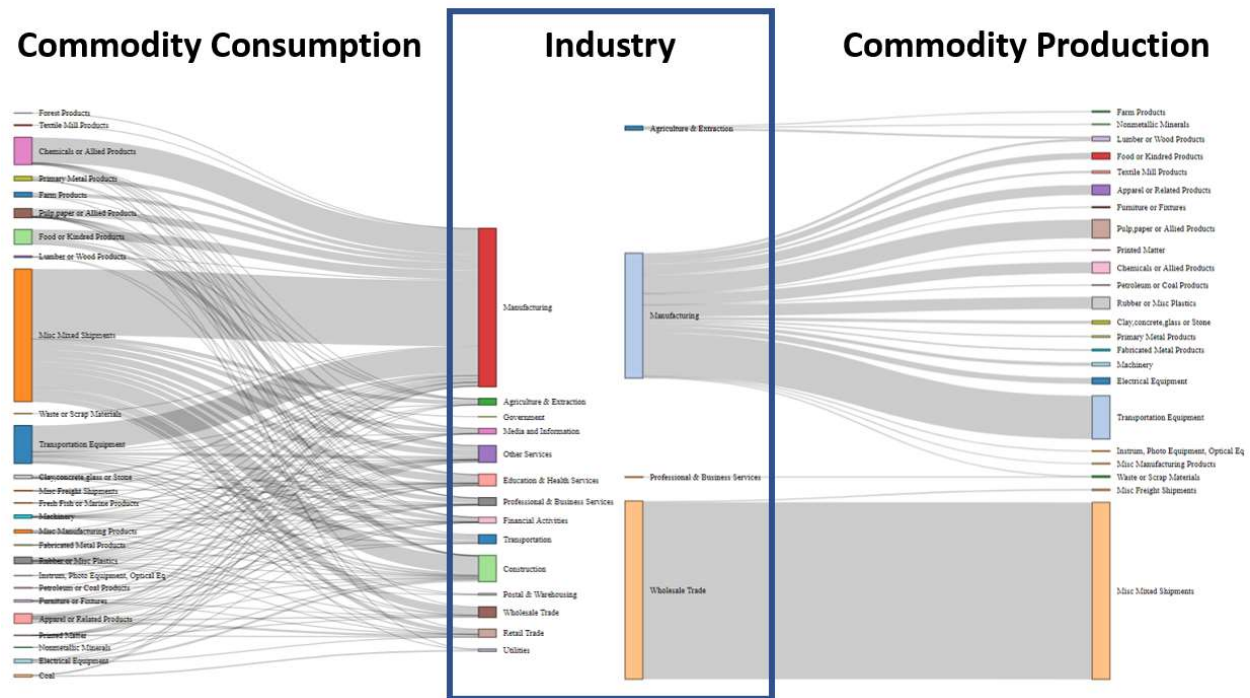
If we focus on the graph on the right-hand side, we are confronted with a random clustering of commodities. We can see that to varying degrees Georgia is involved in the manufacture of motor vehicles, and the generation of mixed freight. But by focusing on the graphs to the left that isolate each type of outbound trade, those similarities begin to unwind: the ranked order of commodities being emphasized are clearly of a different nature. If one examines the pattern of originating sources of exports against an overlay of intermodal facilities, the sensitivity of certain locations to trade becomes apparent, thus conveying the inherent intermodal nature of rail flows. These businesses can easily be represented as more sensitive to shifts in trade and changes in policy or future shifts in market demand.

Figure 7. Regional Decomposition of International Exports

Note that despite the level of detail on the origins and destinations of the data, we have purposely been talking about freight dependence and impacts at a state level for a reason. We know that the waybill data has finer geography, but we understand that due to possible trip chaining, and headquartering issues muddying the interpretation of the data we cannot guarantee both industry AND smaller geography. Our methodology does a respectable job at cleaning this behavior out, but we caution saying too much in terms of county detail regarding businesses and their exact usage. For overall patterns of freight, it is fine to talk detail, but when we start feeding it into the economic model to look at freight user impacts, we did not want to create false confidence by overly interpreting the data.

3.3 Linkage to Regional Supply and Demand

After compiling all this information with the economic model, we obtain a picture of the movement of goods that is no longer in terms of commodities, but as inputs between industries. While this might be a larger data exercise, if we put all the production and consumption relationships together, being represented by outbound and inbound flows respectively, into a graphic, we can see the flow of good within an economy based on the following figure 13. The figure is at an overall high level for ease of presentation but can be focused in on industries or commodities and their relative emphasis on utilization within Georgia.

Figure 8. Georgia's Industry Consumption and Production of Commodities

Note that we can further stratify this based on the various markets to talk about sensitivity and location, but for purposes of simply quantifying the impact we can focus on overall magnitudes. In the successive section that feeds these direct effects into the economic model to understand the total economic footprint generated we will be talking about them as impacts. There is something of a caveat to be had with the interpretation. We classify the magnitudes of effects as a way of understanding the role of rail in facilitating business operations. As a reasonable measure of effect this serves as an excellent communication piece, but care should be placed in treating it too literal. In a worst-case scenario, the abolishment of rail would not lead to all those Businesses closing and firing their workers: instead they would be faced by additional costs of sourcing and transporting goods they might not have otherwise had to face. Some of them would be adversely affected and unable to soak up the addition cost of operations, while others would take the hit to competitiveness but otherwise continue operations. Freight user dependence is about understanding what base is supported, rather than what is at stake, because we make no judgement on the response of businesses in a hypothetical alternate scenario removing services.

4 Rail Economic Impacts

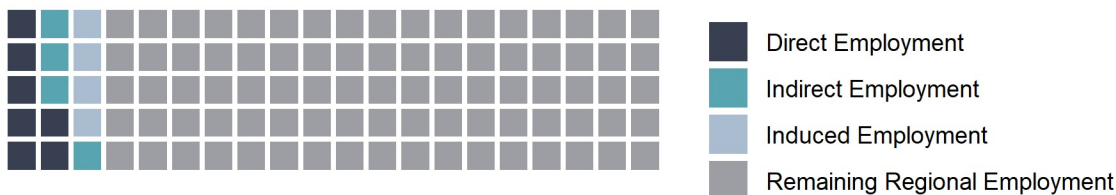
Rail supports over 834,737 jobs each year as both a source of direct employment for services and users, but also secondary effects related to indirect business purchases, and induced worker income re-spending in the state economy. These jobs support Georgia's households with about \$48.0 billion of labor income, contributing \$160.8 billion in economic output to the state each year. Table 2 highlights the cumulative economic impact for each region analyzed in the model.

Table 2 Total Economic Impacts by Type

Breakdown of Total Economic Impacts				
Impact Type	Employment	Income (\$M)	Value Added (\$M)	Output (\$M)
Direct	392,515	\$ 23,689.4	\$ 41,399.2	\$ 92,224.8
Indirect	205,321	\$ 12,234.6	\$ 19,835.9	\$ 35,611.0
Induced	236,901	\$ 10,406.9	\$ 19,298.4	\$ 32,939.4
Total	834,737	\$ 46,330.9	\$ 80,533.5	\$ 160,775.2

The jobs supported within Georgia equate to about 14.3% of all employment within the state, or about one in seven jobs. The figure below visually highlights the proportion of state employment supported via rail: breaking down how much is related to direct, versus secondary impacts. Each block representing 1% of employment.

Figure 9. Composition of Employment in Georgia

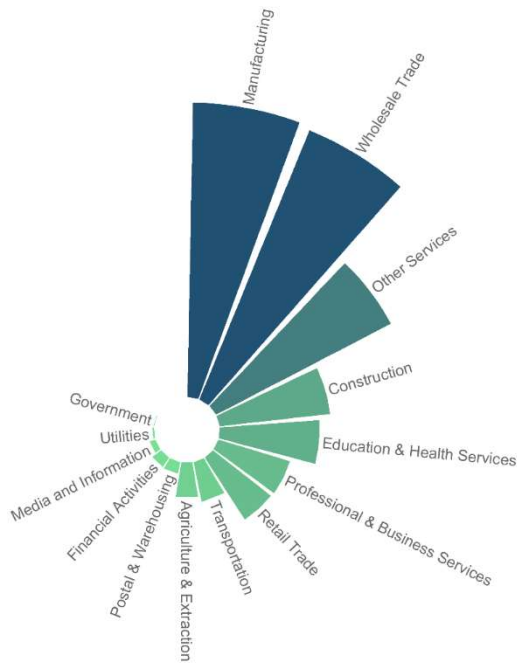


The impact of rail services on the state economy is predominantly driven by its role in moving goods, with over 98% of direct employment effects associated with freight users. Due to declining Amtrak ridership, the impact of passenger spending has declined to \$ 0.3 million of direct sales, but with the addition of a new IT facility, the rail transportation (both freight and passenger) sector employs 7,830 workers, of which 50 are involved in the new building. Table 3 stratifies the impacts of rail to show how the different services rail provides impact the economy based on their direct, and wider, secondary economic effects. By comparing the relative magnitudes of impacts by type of rail impact we can see that rail enables far more activity outside of that stemming from its physical facilities, and employment directly associated with provision.

Table 3. Stratification of Impacts

Rail Transport Impacts by Type							
Measure and Type	Services			Users			Combined Rail
	Freight	Passenger	Total	Freight	Passenger	Total	
Output (\$M)							
Direct	\$ 2,391.2	\$ 25.0	\$ 2,416.1	\$ 89,808.4	\$ 0.3	\$ 89,808.7	\$ 92,224.8
Indirect	\$ 744.2	\$ 12.7	\$ 756.9	\$ 34,854.0	\$ 0.1	\$ 34,854.1	\$ 35,611.0
Induced	\$ 1,241.7	\$ 13.6	\$ 1,255.3	\$ 31,683.9	\$ 0.1	\$ 31,684.1	\$ 32,939.4
Total	\$ 4,377.0	\$ 51.3	\$ 4,428.3	\$ 156,346.3	\$ 0.6	\$ 156,346.9	\$ 160,775.2
Employment							
Direct	7,750	80	7,830	384,680	5	384,685	392,515
Indirect	4,370	80	4,450	200,870	1	200,871	205,321
Induced	8,920	100	9,020	227,880	1	227,881	236,901
Total	21,040	260	21,300	813,430	7	813,437	834,737
Labor Income (\$M)							
Direct	\$ 1,079.9	\$ 10.2	\$ 1,090.0	\$ 22,599.2	\$ 0.1	\$ 22,599.3	\$ 23,689.4
Indirect	\$ 278.8	\$ 4.7	\$ 283.5	\$ 11,951.1	\$ 0.0	\$ 11,951.1	\$ 12,234.6
Induced	\$ 392.4	\$ 4.3	\$ 396.7	\$ 10,010.2	\$ 0.0	\$ 10,010.3	\$ 10,406.9
Total	\$ 1,751.0	\$ 19.2	\$ 1,770.2	\$ 44,560.5	\$ 0.2	\$ 44,560.7	\$ 46,330.9
Value Added (\$M)							
Direct	\$ 1,500.4	\$ 12.5	\$ 1,512.9	\$ 39,886.1	\$ 0.2	\$ 39,886.3	\$ 41,399.2
Indirect	\$ 426.7	\$ 7.6	\$ 434.4	\$ 19,401.5	\$ 0.1	\$ 19,401.6	\$ 19,835.9
Induced	\$ 727.3	\$ 8.0	\$ 735.3	\$ 18,563.0	\$ 0.1	\$ 18,563.1	\$ 19,298.4
Total	\$ 2,654.4	\$ 28.1	\$ 2,682.6	\$ 77,850.6	\$ 0.3	\$ 77,850.9	\$ 80,533.5
Taxes							
Direct	\$ 67.42	\$ 0.45	\$ 67.87	\$ 3,606.50	\$ 0.02	\$ 3,606.52	\$ 3,674.40
Indirect	\$ 26.72	\$ 0.38	\$ 27.10	\$ 1,283.39	\$ 0.00	\$ 1,283.40	\$ 1,310.49
Induced	\$ 58.67	\$ 0.64	\$ 59.31	\$ 1,499.82	\$ 0.01	\$ 1,499.83	\$ 1,559.14
Total	\$ 152.81	\$ 1.47	\$ 154.28	\$ 6,389.71	\$ 0.03	\$ 6,389.74	\$ 6,544.02

The radial bar chart in Figure 15 shows that, based on employment, the direct impacts of rail is most concentrated around industries involved in the production and usage of services, such as manufacturing, and wholesale – though not limited by any means. The accompanying Figure and table show the breakout of industries impacted. These two industries account for nearly 27 % of the total impact of rail on the state in an employment basis (and 48.7% in terms of economic output generated).

Figure 10. Combined Rail Order of Magnitude Impact on Employment by Sector

The following table (Table 4) goes beyond its accompanying figure to show the impact in terms of other measures including labor income, value added, and economic output generated. The table shows a detailed breakout of the direct and total impacts of rail on the state by 14 sector aggregation of the economy in terms of the economic output generated, employment supported, labor income earned, and value-added services as part of operations.

Table 4. Combined Rail Impact by Industry

Total Economic Impact by Industry, Rail All Kinds								
Industry	Employment		Income (\$M)		Value Added (\$M)		Output (\$M)	
	Direct	Total	Direct	Total	Direct	Total	Direct	Total
Agriculture & Extraction	10,870	22,860	\$ 550.4	\$ 1,058.9	\$ 767.9	\$ 1,442.6	\$ 1,993.9	\$ 3,432.2
Utilities	540	2,670	\$ 79.3	\$ 365.7	\$ 247.8	\$ 1,093.5	\$ 595.8	\$ 2,821.0
Construction	33,610	39,360	\$ 1,850.1	\$ 2,174.4	\$ 2,670.6	\$ 3,120.9	\$ 6,127.9	\$ 7,056.5
Manufacturing	92,160	106,930	\$ 6,303.0	\$ 7,295.6	\$ 12,289.2	\$ 14,197.3	\$ 43,562.7	\$ 49,818.9
Wholesale Trade	92,200	118,210	\$ 7,891.6	\$ 10,117.5	\$ 15,205.2	\$ 19,493.9	\$ 22,251.9	\$ 28,528.2
Retail Trade	22,120	71,350	\$ 684.4	\$ 2,254.7	\$ 1,125.6	\$ 3,680.5	\$ 1,889.2	\$ 6,133.2
Transportation	19,270	37,870	\$ 1,714.0	\$ 2,685.4	\$ 2,332.1	\$ 3,612.9	\$ 4,223.5	\$ 7,005.3
Postal & Warehousing	3,540	20,560	\$ 176.3	\$ 1,099.3	\$ 244.0	\$ 1,382.5	\$ 405.1	\$ 2,166.2
Media and Information	1,820	10,500	\$ 265.3	\$ 1,453.0	\$ 682.0	\$ 3,067.0	\$ 1,271.0	\$ 5,782.6
Financial Activities	3,280	56,720	\$ 230.2	\$ 2,879.0	\$ 898.0	\$ 11,198.8	\$ 1,349.0	\$ 17,846.3
Professional & Business Services	22,560	123,010	\$ 901.0	\$ 6,988.6	\$ 1,052.5	\$ 8,319.4	\$ 1,879.3	\$ 13,326.9
Education & Health Services	30,090	82,230	\$ 1,462.4	\$ 4,291.3	\$ 1,603.2	\$ 4,685.6	\$ 2,710.8	\$ 7,766.9
Other Services	60,290	141,560	\$ 1,567.1	\$ 3,592.6	\$ 2,269.2	\$ 5,173.7	\$ 3,938.3	\$ 8,948.5
Government	170	910	\$ 14.1	\$ 74.9	\$ 11.9	\$ 64.8	\$ 26.5	\$ 142.5
Total	392,520	834,740	\$ 23,689.4	\$ 46,330.9	\$ 41,399.2	\$ 80,533.5	\$ 92,224.8	\$ 160,775.2

To better understand the nuances of rail, the following sections will take these high-level impacts and focus in on pieces of them related to the breakdown between services and user impacts to give a more detailed accounting of the impacts and how and where they accrue.

4.1 Rail Service Impacts

Freight and rail services combined are responsible for generating 7,830 jobs within the state directly. An additional 13,470 jobs are generated through indirect purchasing and induced wage re-spending within the state. These 21,300 workers generate \$4.4 billion in economic output in the state, and \$154.3

million in tax revenue. The following table breaks down the impacts of services between their passenger and freight services

Table 5. Breakdown of Rail Service Impacts

Rail Transport Service Impact			
Measure and Type	Services		
	Freight	Passenger	Total
Output (\$M)			
Direct	\$ 2,391.2	\$ 25.0	\$ 2,416.1
Indirect	\$ 744.2	\$ 12.7	\$ 756.9
Induced	\$ 1,241.7	\$ 13.6	\$ 1,255.3
Total	\$ 4,377.0	\$ 51.3	\$ 4,428.3
Employment			
Direct	7,750	80	7,830
Indirect	4,370	80	4,450
Induced	8,920	100	9,020
Total	21,040	260	21,300
Labor Income (\$M)			
Direct	\$ 1,079.9	\$ 10.2	\$ 1,090.0
Indirect	\$ 278.8	\$ 4.7	\$ 283.5
Induced	\$ 392.4	\$ 4.3	\$ 396.7
Total	\$ 1,751.0	\$ 19.2	\$ 1,770.2
Value Added (\$M)			
Direct	\$ 1,500.4	\$ 12.5	\$ 1,512.9
Indirect	\$ 426.7	\$ 7.6	\$ 434.4
Induced	\$ 727.3	\$ 8.0	\$ 735.3
Total	\$ 2,654.4	\$ 28.1	\$ 2,682.6
Taxes			
Direct	\$ 67.4	\$ 0.4	\$ 67.9
Indirect	\$ 26.7	\$ 0.4	\$ 27.1
Induced	\$ 58.7	\$ 0.6	\$ 59.3
Total	\$ 152.8	\$ 1.5	\$ 154.3

It is important to recognize that in Georgia, over 98% rail transportation sector jobs are associated with supporting the movement of freight. This proportion includes the 50 workers in the Amtrak IT building providing passenger rail services. Unsurprisingly, when we look at the industries most impacted (including both indirect and induced impacts of rail transportation employment), own sector is the primary industry being affected, followed by retail/wholesale, and construction sectors (indirect), and consumption-based sectors representing worker wage re-spending (financial activities, services, real estate).

Figure 11. Total Employment Impact of Rail Services, By Industry



4.2 Transport User Impacts

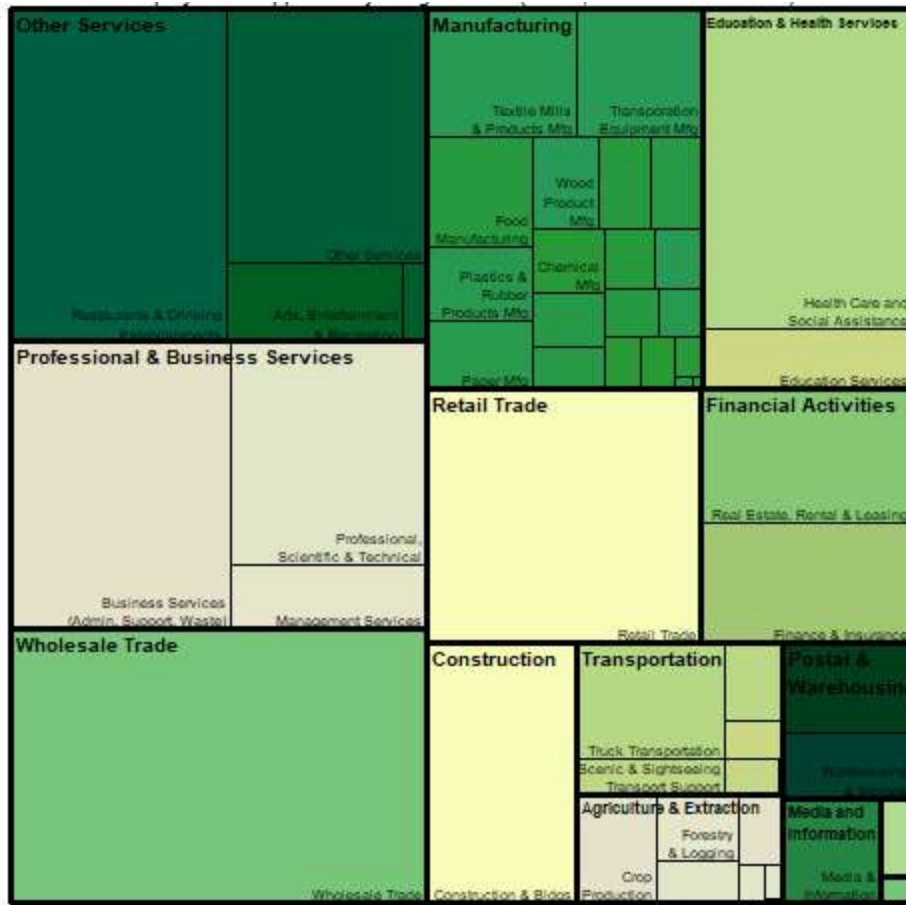
Separate from the impact of rail as a business are those impacts associated with the use of rail as a service. These impacts are an estimation of the portion of industrial economic activity that is tied up in goods sourced and shipped via rail.⁶ In aggregate, this accounts for \$87.8 billion of output directly, with another \$34.3 billion indirect and \$31.0 billion worth of induced impacts accruing to the state. The business reliance on rail is about the cost competitiveness of the service and preserving a competitive bottom line for local businesses, making interruption of rail service likely to put some portion of these business's revenues at risk or subject to additional burdens that would serve to eat away gross profit.

⁶ Note that these impacts should not be considered “critical,” as the removal of rail service would be unlikely to make it impossible for these industries to continue operating.

Table 6. Breakdown of Rail User Impacts

Rail Transport User Impacts			
Measure and Type	Users		
	Freight	Passenger	Total
Output (\$M)			
Direct	\$ 87,767.0	\$ 0.3	\$ 87,767.3
Indirect	\$ 34,311.7	\$ 0.1	\$ 34,311.9
Induced	\$ 30,999.1	\$ 0.1	\$ 30,999.2
Total	\$ 153,077.8	\$ 0.6	\$ 153,078.4
Employment			
Direct	378,696	5	378,701
Indirect	197,107	1	197,108
Induced	222,843	1	222,844
Total	798,646	7	798,653
Labor Income (\$M)			
Direct	\$ 22,230.0	\$ 0.1	\$ 22,230.1
Indirect	\$ 11,801.1	\$ 0.0	\$ 11,801.2
Induced	\$ 9,797.5	\$ 0.0	\$ 9,797.6
Total	\$ 43,828.7	\$ 0.2	\$ 43,828.9
Value Added (\$M)			
Direct	\$ 39,121.9	\$ 0.2	\$ 39,122.1
Indirect	\$ 19,130.2	\$ 0.1	\$ 19,130.3
Induced	\$ 18,162.9	\$ 0.1	\$ 18,162.9
Total	\$ 76,415.0	\$ 0.3	\$ 76,415.4
Taxes			
Direct	\$ 3,606.5	\$ 0.02	\$ 3,606.5
Indirect	\$ 1,283.4	\$ 0.00	\$ 1,283.4
Induced	\$ 1,499.8	\$ 0.01	\$ 1,499.8
Total	\$ 6,389.7	\$ 0.03	\$ 6,389.7

As shown in figure 17, the impact on rail users is more diverse than that of the providers. In part, this is because the user base is so diverse. Top manufacturing industries affected include textile mills, transportation equipment, and food manufacturing.

Figure 12. Total Employment Impact of Rail Users, By Industry

Industry Sensitivity to Trade

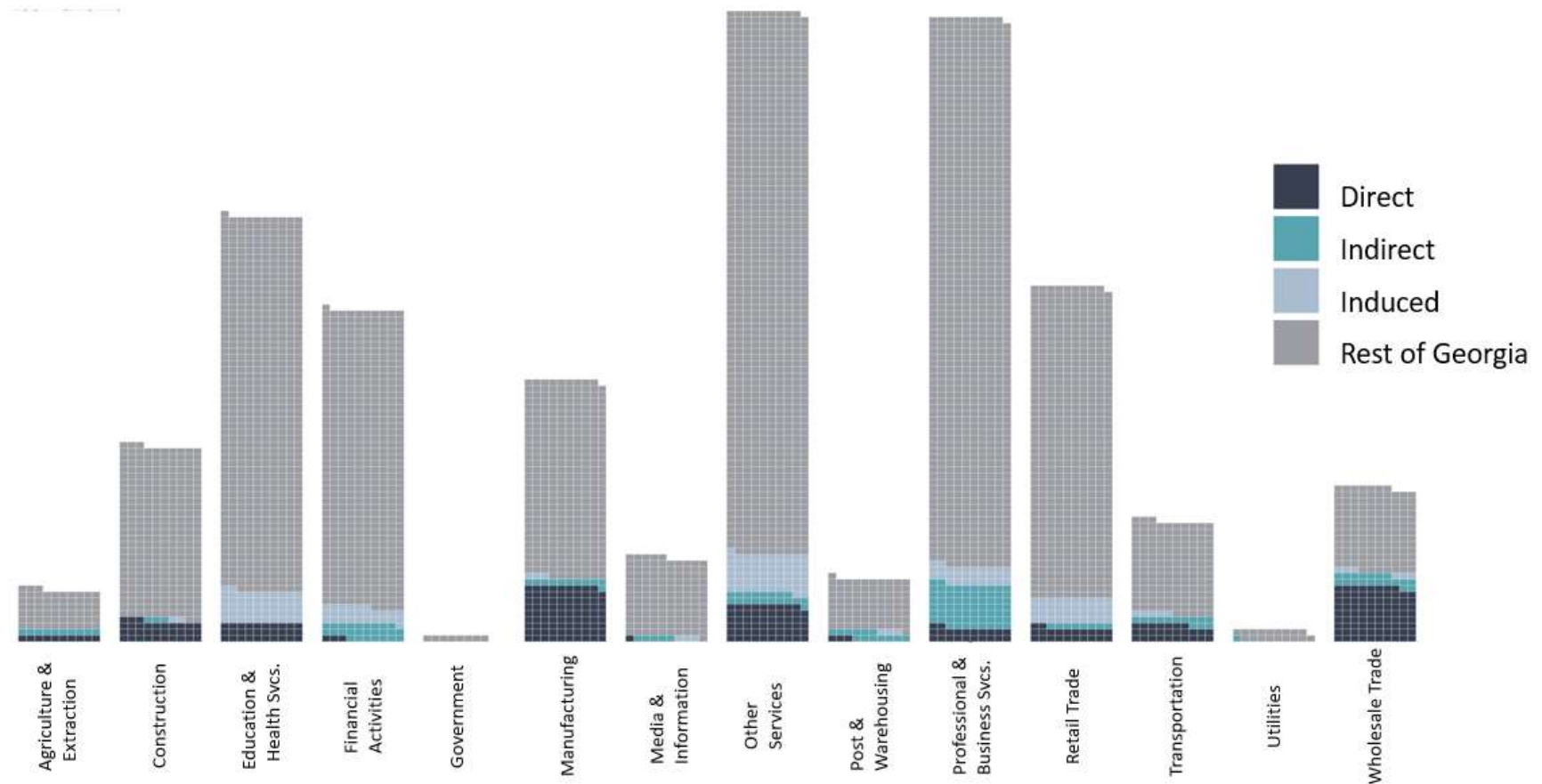
We have focused on the impacts of rail in terms of jobs supported by enabling industry activity in sourcing and shipping necessary components and byproducts of production. By default, this focuses on aggregate moves in relation to the state and ignores the regional reliance on trade both domestic and international. If we take the classic estimation of freight dependence and further stratify it by whether it involves domestic or international markets, we can show Georgia's involvement in international supply chains. This can be interpreted multiple ways, such as the portion of the state's base that is most sensitive to fluctuations in international markets. These international flows involve either cross-border trade with Canada and Mexico or the rail moves to and from ports that then go on to serve international destination (or origins).

Table 7. Stratification of Rail Freight User Impacts Between Domestic and International Sources

Freight Dependence (Employment)	Breakdown of Domestic Versus Foreign Market Industry Reliance									
	Domestic Related				Foreign Related				Combined Freight Dependence	
	Direct Employment	% State	Total Employment	% State	Direct Employment	% State	Total Employment	% State	Direct Employment	Total Employment
Agriculture & Extraction	8,340	10%	19,070	22%	2,520	3%	3,700	4%	10,860	22,770
Utilities	510	2%	2,440	11%	30	0%	200	1%	540	2,640
Construction	30,140	10%	35,130	11%	3,480	1%	3,930	1%	33,620	39,060
Manufacturing	84,630	20%	97,940	23%	7,520	2%	8,730	2%	92,150	106,670
Food Manufacturing	9,150	12%	11,130	14%	770	1%	930	1%	9,920	12,060
Beverage & Tobacco Product Mfg	1,510	24%	1,800	29%	80	1%	100	2%	1,590	1,900
Textile Mills & Products Mfg	17,220	34%	18,580	37%	960	2%	1,040	2%	18,180	19,620
Apparel Mfg	1,790	60%	1,830	61%	40	1%	50	2%	1,830	1,880
Leather Product Mfg	110	24%	110	24%	10	2%	10	2%	120	120
Wood Product Mfg	3,760	19%	5,230	26%	580	3%	760	4%	4,340	5,990
Paper Mfg	5,700	29%	6,700	35%	510	3%	590	3%	6,210	7,290
Printing	1,510	9%	2,660	17%	110	1%	200	1%	1,620	2,860
Petroleum and Coal Products Mfg	100	9%	180	17%	10	1%	20	2%	110	200
Chemical Mfg	3,400	15%	4,220	19%	410	2%	480	2%	3,810	4,700
Plastics & Rubber Products Mfg	6,760	28%	7,720	32%	390	2%	470	2%	7,150	8,190
Nonmetal Mineral Product Mfg	2,440	15%	3,590	22%	220	1%	340	2%	2,660	3,930
Primary Metal Mfg	1,460	19%	1,620	21%	460	6%	480	6%	1,920	2,100
Fabricated Metal Mfg	3,230	10%	4,440	14%	360	1%	480	2%	3,590	4,920
Machinery Mfg	4,120	19%	4,300	20%	390	2%	410	2%	4,510	4,710
Computer and Electronic Mfg	920	9%	1,000	10%	120	1%	130	1%	1,040	1,130
Electrical Equipment & Appliance Mfg	2,380	16%	2,620	18%	320	2%	340	2%	2,700	2,960
Transportation Equipment Mfg	14,400	27%	15,100	29%	1,370	3%	1,420	3%	15,770	16,520
Furniture Mfg	2,150	18%	2,300	19%	220	2%	240	2%	2,370	2,540
Miscellaneous Mfg	2,500	17%	2,810	19%	210	1%	240	2%	2,710	3,050
Wholesale Trade	86,650	35%	109,820	44%	5,550	2%	7,670	3%	92,200	117,490
Retail Trade	20,680	4%	64,420	11%	1,430	0%	5,350	1%	22,110	69,770
Transportation	10,610	5%	27,220	14%	880	0%	2,340	1%	11,490	29,560
Postal & Warehousing	3,250	3%	18,860	18%	290	0%	1,500	1%	3,540	20,360
Media and Information	1,570	1%	9,390	7%	200	0%	860	1%	1,770	10,250
Financial Activities	2,910	1%	50,060	9%	370	0%	4,370	1%	3,280	54,430
Professional & Business Services	20,890	2%	110,980	11%	1,670	0%	9,430	1%	22,560	120,410
Education & Health Services	28,090	4%	74,240	11%	2,000	0%	6,030	1%	30,090	80,270
Other Services	56,800	6%	129,100	13%	3,490	0%	9,750	1%	60,290	138,850
Government	150	0%	810	0%	20	0%	80	0%	170	890
Total	355,220	6%	749,480	12%	29,450	0.5%	63,940	1.1%	384,670	813,420

4.3 Share of State Impacts

The following graphic highlights the share of total state employment that is attributable to rail transportation in all its forms (both due to User and operator)



Appendix Items

A. Waybill Parsing Heuristics

This study utilizes the confidential Carload Waybill Sample data for the state of Georgia provided by the US Department of Transportation Surface Transportation Board. This data was used to classify shipments into flow types by county and commodity for further analysis.

For the purposes of identifying multimodal freight movements, particularly those that utilize water as well as rail, numerous zip codes around the country containing marine ports were identified. Flows were classified using the following logic:

Internal (within Georgia): Rail shipments that begin and terminate in Georgia. Additionally, neither of the zip codes associated with the origin and destination were flagged as being associated with a port.

Through Georgia: Several definitions were used to identify through flows.

1. Georgia was neither the origin nor destination state, and the zip codes of each end were not associated with any ports.
2. Either the origin or destination state was not Georgia, but the origin/destination zip code in Georgia was identified as having a port.
3. Both the origin and destination were associated with a port. This methodology assumes that the goods both enter and then promptly leave the country via those ports, and thus do not interact with the economy of Georgia.

Domestic Inbound: The origin point is within the United States, and the destination is a non-port associated zip code in Georgia.

Domestic Outbound: The origin is a non-port associated zip code in Georgia and the destination lies outside of Georgia but within the United States

Imports: Two definitions were used to identify imports.

1. The origin point is outside of the United States and the destination is a non-port associated zip code in Georgia. These goods enter the country via rail.
2. The origin zip code is associated with a port, while the destination is a non-port associated zip code in Georgia. This methodology assumes that goods originating from these points are entering the country from abroad via the port.

Exports: Two definitions were used to identify exports.

1. The origin point is a non-port associated zip code within Georgia and the destination is outside of the United States. These goods leave the country via rail.

2. The origin point is a non-port associated zip code in Georgia and the destination is associated with a port. This methodology assumes that goods being delivered to these points are leaving the country via the port.

Notes: The methodology outlined above assumes that all activity occurring near a port is associated with international trade flows (i.e. there is no domestic activity occurring at the Port of Savannah).

The list of international ports includes facilities outside of Georgia. For example, a shipment originating in Georgia that terminates at the Port of Long Beach is classified as an Export.

B. Value Per Ton Estimates

The following are high level aggregations of the value per ton relationships used to filled in the waybill data and arrive at a valuation of goods moving via rail.

Valuation of Freight Goods (Aggregated)			
STCC2	STCC Description	Direction	Dollars Per Ton
1	Farm Products	Inbound	\$ 184.2
8	Forest Products	Inbound	\$ 2,456.2
9	Fresh Fish or Marine Products	Inbound	\$ 12,022.1
10	Metallic Ores	Inbound	\$ 29.6
11	Coal	Inbound	\$ 35.1
14	Nonmetallic Minerals	Inbound	\$ 11.2
20	Food or Kindred Products	Inbound	\$ 866.4
22	Textile Mill Products	Inbound	\$ 7,166.0
23	Apparel or Related Products	Inbound	\$ 7,044.7
24	Lumber or Wood Products	Inbound	\$ 477.0
25	Furniture or Fixtures	Inbound	\$ 4,755.3
26	Pulp,paper or Allied Products	Inbound	\$ 952.3
27	Printed Matter	Inbound	\$ 6,046.0
28	Chemicals or Allied Products	Inbound	\$ 1,973.4
29	Petroleum or Coal Products	Inbound	\$ 714.3
30	Rubber or Misc Plastics	Inbound	\$ 5,248.6
31	Leather or Leather Products	Inbound	\$ 12,892.9
32	Clay,concrete,glass or Stone	Inbound	\$ 333.3
33	Primary Metal Products	Inbound	\$ 1,959.3
34	Fabricated Metal Products	Inbound	\$ 5,789.4
35	Machinery	Inbound	\$ 11,229.9
36	Electrical Equipment	Inbound	\$ 5,904.0
37	Transportation Equipment	Inbound	\$ 9,188.9
38	Instrum, Photo Equipment, Optical Eq	Inbound	\$ 7,695.5
39	Misc Manufacturing Products	Inbound	\$ 9,250.7
40	Waste or Scrap Materials	Inbound	\$ 196.2
41	Misc Freight Shipments	Inbound	\$ 3,470.4
42	Shipping Containers	Inbound	\$ -
46	Misc Mixed Shipments	Inbound	\$ 5,103.3
49	Hazardous Materials	Inbound	\$ -

Valuation of Freight Goods (Aggregated)			
STCC2	STCC Description	Direction	Dollars Per Ton
1	Farm Products	Outbound	\$ 216.2
8	Forest Products	Outbound	\$ 2,456.2
10	Metallic Ores	Outbound	\$ 767.0
11	Coal	Outbound	\$ 35.1
14	Nonmetallic Minerals	Outbound	\$ 10.4
20	Food or Kindred Products	Outbound	\$ 792.3
22	Textile Mill Products	Outbound	\$ 5,092.9
23	Apparel or Related Products	Outbound	\$ 5,295.9
24	Lumber or Wood Products	Outbound	\$ 251.7
25	Furniture or Fixtures	Outbound	\$ 5,257.9
26	Pulp,paper or Allied Products	Outbound	\$ 1,070.5
27	Printed Matter	Outbound	\$ 6,582.8
28	Chemicals or Allied Products	Outbound	\$ 1,682.9
29	Petroleum or Coal Products	Outbound	\$ 596.9
30	Rubber or Misc Plastics	Outbound	\$ 5,838.5
31	Leather or Leather Products	Outbound	\$ 28,336.3
32	Clay,concrete,glass or Stone	Outbound	\$ 146.5
33	Primary Metal Products	Outbound	\$ 2,130.8
34	Fabricated Metal Products	Outbound	\$ 7,908.7
35	Machinery	Outbound	\$ 9,623.7
36	Electrical Equipment	Outbound	\$ 7,044.0
37	Transportation Equipment	Outbound	\$ 10,129.4
38	Instrum, Photo Equipment, Optical Eq	Outbound	\$ 12,880.2
39	Misc Manufacturing Products	Outbound	\$ 9,434.1
40	Waste or Scrap Materials	Outbound	\$ 231.6
41	Misc Freight Shipments	Outbound	\$ 4,456.1
42	Shipping Containers	Outbound	\$ -
46	Misc Mixed Shipments	Outbound	\$ 5,144.1
49	Hazardous Materials	Outbound	\$ -

C. Comparison to Prior Impacts

The following table highlights the changes in impacts estimated between this round and the prior state rail plan. It is important to reference the prior body of work to understand how the state has evolved its services, and better understand where similarities and differences lie in relation to what we know about the underlying structure of the economy. Note that the usage of 2011 data in the prior study, the picture being painted is one of a recovering economy getting over the throes of the 2008/2009 global financial crisis. Table 8 highlights the comparative impacts.

Table 8. Comparison of Economic Impacts of Rail to Prior Study's Results

	Rail Transport Impacts by Type							
	Measure and Type	Services			Users			Combined Rail
		Freight	Passenger	Total	Freight	Passenger	Total	
Updated Study	Output (\$M)							
	Direct	\$ 2,391.2	\$ 25.0	\$2,416.1	\$ 89,808.4	\$ 0.3	\$ 89,808.7	\$ 92,224.8
	Indirect	\$ 744.2	\$ 12.7	\$ 756.9	\$ 34,854.0	\$ 0.1	\$ 34,854.1	\$ 35,611.0
	Induced	\$ 1,241.7	\$ 13.6	\$1,255.3	\$ 31,683.9	\$ 0.1	\$ 31,684.1	\$ 32,939.4
	Total	\$4,377.0	\$ 51.3	\$4,428.3	\$156,346.3	\$ 0.6	\$156,346.9	\$ 160,775.2
	Employment							
	Direct	7,750	80	7,830	384,680	5	384,685	392,515
	Indirect	4,370	80	4,450	200,870	1	200,871	205,321
	Induced	8,920	100	9,020	227,880	1	227,881	236,901
	Total	21,040	260	21,300	813,430	7	813,437	834,737
Prior Study	Output (\$M)							
	Direct	\$ 2,379.0	\$ 16.9	\$2,395.9	\$ 71,209.0	\$ 25.3	\$ 71,234.3	\$ 73,630.2
	Indirect	\$ 1,045.0	\$ 7.4	\$1,052.4	\$ 25,614.0	\$ 10.2	\$ 25,624.2	\$ 26,676.6
	Induced	\$ 921.0	\$ 6.6	\$ 927.6	\$ 21,158.0	\$ 11.8	\$ 21,169.8	\$ 22,097.4
	Total	\$4,345.0	\$ 30.9	\$4,375.9	\$117,981.0	\$ 47.3	\$118,028.3	\$ 122,404.2
	Employment							
	Direct	6,040	40	6,080	319,820	380	320,200	326,280
	Indirect	8,000	60	8,060	157,330	80	157,410	165,470
	Induced	7,540	50	7,590	173,200	100	173,300	180,890
	Total	21,580	150	21,730	650,350	560	650,910	672,640

Freight and Passenger Rail Services - A quick visual inspection shows consistency in magnitude for rail as a service. By and large rail transportation as an industry has expanded modestly in the past 6 years (2011 IMPLAN used in prior versus 2017 IMPLAN used this round). What is interesting is that the structure of the impacts on the economy have shifted towards being more heavily impacting local supply chains, to an emphasis on the induced re-spending of workers in the sector. The implication of this is that there has been an increasing reliance on outside supply chains.

Freight Users – There was a notable increase in the volume and valuation of rail. Both rounds of impact estimation follow a consistent and mostly common methodological basis. Our valuation of rail freight users falls close to that of the picture FAF paints, so we are on good basis with methodology. The expansion of freight activity since 2011 has systematically shifted the contribution.

Passenger Users - The economic impact of passenger users (Amtrak enabled tourism spending) has declined precipitously since the last round. There is a simple explanation to this however – the prior study had an estimate of the number of visitors from Amtrak, and they multiplied the number of visitors by average tourism behavior data from longwood's regarding duration and stay, and average expenditure. These figures were averaged behavior that were not necessarily representative of rail. Since the prior round, a study was done on visitor spending due to Amtrak – which this update makes use of. It paints a far more muted portrayal of visitor spending contributions.

APPENDIX D: Atlanta Amtrak Station Relocation Project

**GEORGIA
STATE RAIL
PLAN - 2021**



Atlanta Amtrak Station Relocation Project Background

Project History

Amtrak's Crescent service from New York City, NY to New Orleans, LA uses the Norfolk Southern (NS) freight railroad through Georgia with a stop in Atlanta at the Peachtree Station. In 2014 and 2015 GDOT studied potential sites for relocating this station to alleviate freight rail congestion, allow for greater passenger capacity, and improve multimodal connections for passenger.

The primary location considered for the study was 13 acre property comprised of two parcels at the corner of Northside Drive and 17th Street, west of Atlantic Station. One parcel was privately owned while the other was publicly owned. The site is located on the opposite side of the Norfolk Southern (NS) rail line from IKEA and is within the Atlantic Station Tax Allocation District (TAD).

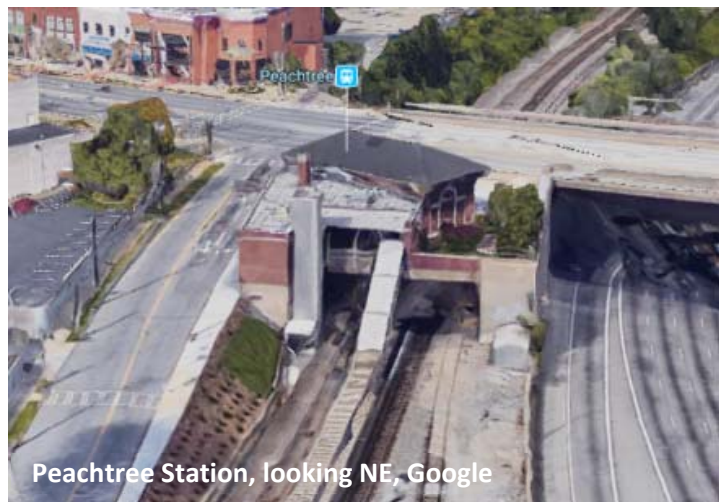
Other sites considered during the planning process included: MARTA's Lenox Station, Multi-Modal Passenger Terminal (MMPT), MARTA's Brookhaven Station, MARTA's Chamblee Station, and MARTA's Doraville Station.

What was proposed?

The first phase would have relocated the Amtrak intercity passenger rail station and would have included local and regional bus amenities, as well as the potential co-location of intercity passenger bus services. Later phases of the project would have provided potential connections to future regional transit options, including bus rapid transit (BRT), streetcar or light rail, and regional commuter rail. The Federal Transit Administration (FTA) was proposed as the lead Federal agency for the project because the Northside Intermodal Center would have linked multiple regional transit services in the short-term, and potentially several transit services in the long-term. The Federal Railroad Administration (FRA) would have served as a participating agency given that the Northside Intermodal center, as proposed, would include Amtrak service.

Why is this project needed?

Amtrak operates on NS's tracks via agreement. Since only two tracks are available at this location, all freight movement stops as Amtrak loads and unloads passengers twice daily at Peachtree Station. Amtrak's Peachtree Station has insufficient parking, lacks high-capacity transit access, needs extensive ADA upgrades, and lacks space for siding tracks which causes delays to NS freight. The station sits on a structure over the NS railroad and expansion is constrained by Deering Road to the north, Peachtree Road to the east, and I-85 to the south.



Changes since this project was proposed?

While vacant during the 2015 study, the privately-owned parcel at 1299 Northside Drive NW has since been developed as a mixed-use project by Fuqua Development. The Development Authority of Fulton County formerly owned the other 7 acre parcel (once owned by SRTA) that was referenced in prior Amtrak relocation studies. The parcel was sold to Kroger in 2017 to anchor the Fuqua development at 1299 Northside, or West Midtown Center. There will also be a SunTrust bank in this development. As a result of this development, limited space would remain to build an Intermodal center with dedicated parking that meets Amtrak requirements.

Updates on the other project sites considered in 2015 are provided below:

MMPT

The land is being developed at the Gulch by CIM. There is currently no project sponsor for the MMPT. The MMPT site is not an ideal location for an Amtrak station supporting the Crescent Route, as it's located about half of a mile away from mainline NS Crescent line.

MARTA Lenox Station

This area is densely developed with limited space for a station relocation. Prior studies also found that curvatures and grade differences between the surface and the NS track would be costly to overcome. The presence of only two existing tracks would not provide additional capacity compared to the current Peachtree Station.

MARTA Brookhaven

The large surface parking lots adjacent to the MARTA station that were explored during 2015 study remain unchanged today. City leaders in Brookhaven have resurrected discussions with MARTA to explore a TOD surrounding the station area, which would use portions of the surface lots. Some issues at the Brookhaven location explored previously were the need for a new bridge, potential curvature issues, and limited capacity for 2-4 station tracks due to track geometry requirements.

MARTA Doraville

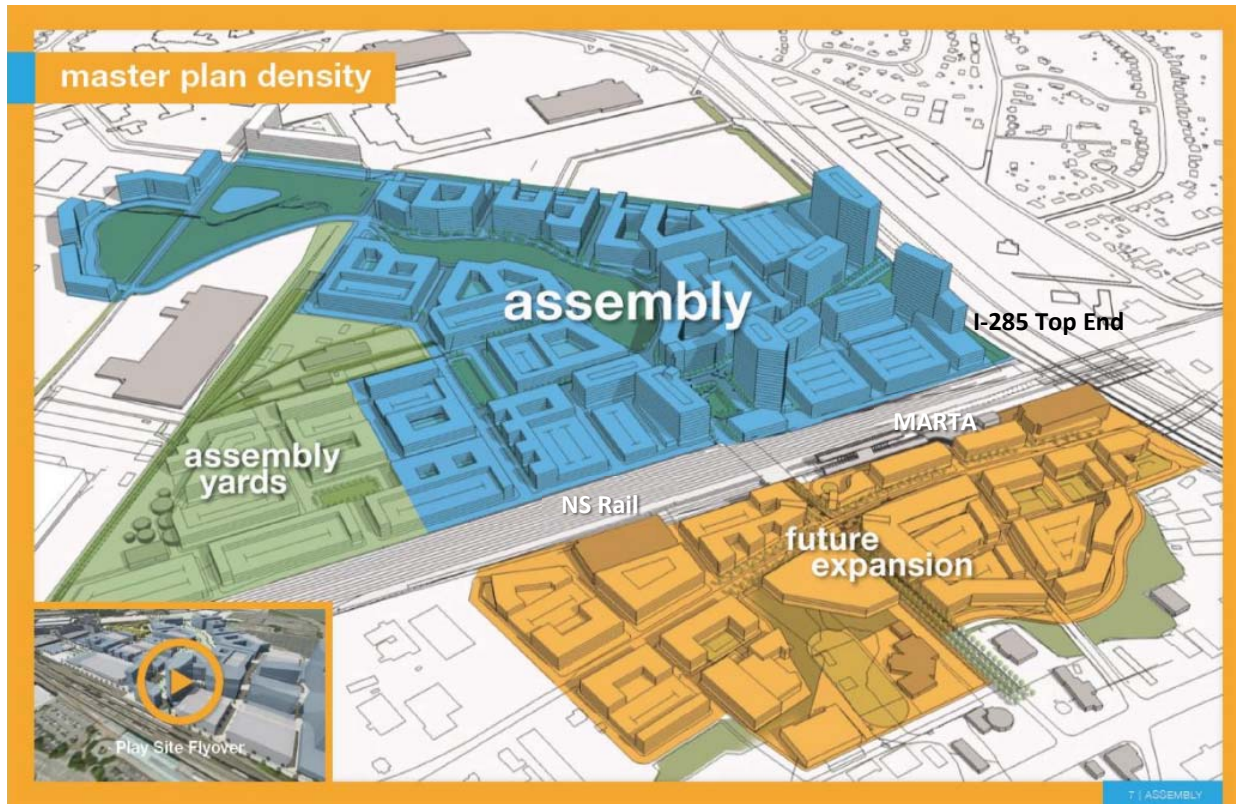
A former GM plant was located on a large property across the NS tracks from the MARTA Doraville station, which was considered during the 2015 study. This location offers highway access, space for parking facilities, a potential direct connection to MARTA bus and rail, room for 2-4 station tracks with room for platforms and passenger access and potential room for support facilities. This is NS's preferred location for a relocated Amtrak station, due to the number of tracks available.

Since 2015, the Integral Group has since purchased the old GM property and development of the area is underway. The Integral Group named the project Assembly. It will include 550,000 square feet of development. Serta Simmons has already relocated their HQ to the development. Assembly recently announced the state's first autonomous shuttle, which will provide service between MARTA and the Assembly campus. Over the next two years, the site will include new residential units and 125,000 square feet of retail and entertainment retail space. The Doraville Assembly development formed a CID (Assembly CID) in August 2016, which consists primarily of the Assembly site.

GDOT recently acquired 5 acres of the site for the I-285 top end Express Lane project, which will include elevated express lanes to the south of the I-285 mainline and an access point to

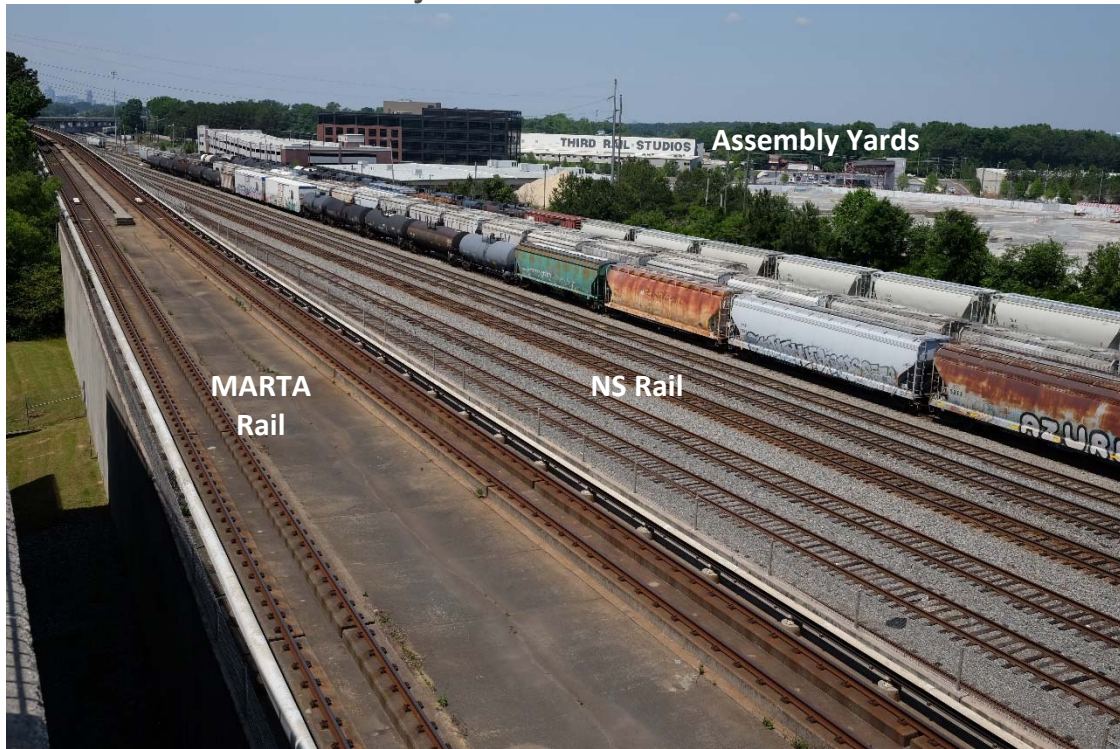
the Doraville MARTA station on the Assembly side of the tracks. The land acquired by GDOT includes part of the site previously considered for an Amtrak station during the 2015 study. The combination of Amtrak intercity passenger rail, MARTA heavy rail and bus, and Express Lanes used by transit and vehicles, has the potential to create a multimodal hub in Doraville.

Future Development Master Plan at Assembly



From Integral Group, 2019

View of Tracks and Site Today



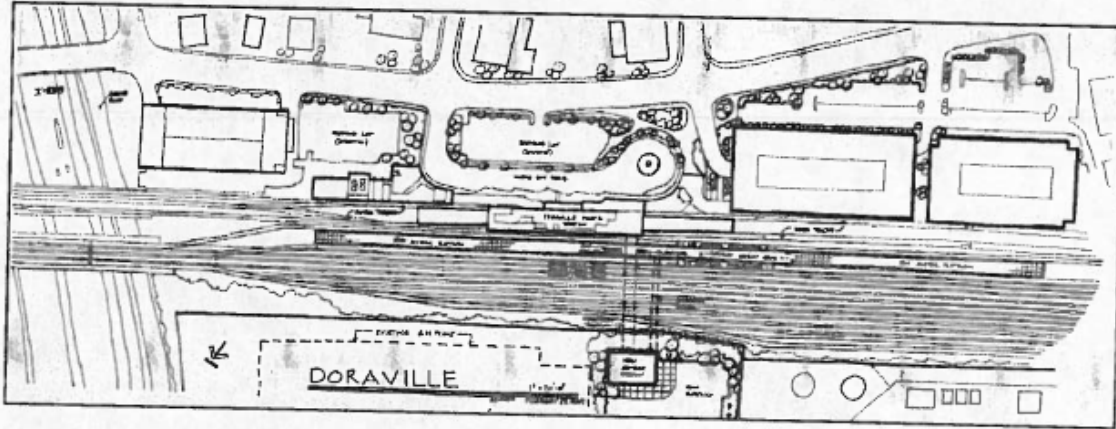
View from Doraville MARTA Parking Deck, looking southwest, 2019



View from Doraville MARTA Parking Deck, looking northeast, 2019

Previous Doraville Site Plan

The proposed plan at Doraville was to construct a new station on the site across the rail yard from the MARTA station and parking facilities with a tunnel connection to the Amtrak facilities. This would require acquisition of the site and construction of infrastructure including access roads and parking on the Amtrak station side.



From the Draft Station Strategy Plan, 2011

GDOT Managed Lanes Plans



I-285 Top End Right-of-Way Plans, 2019

Steps to Develop a Project

1. Early Coordination with GDOT Express Lanes, Amtrak, MARTA, and Integral Group

Review detailed express lane plans including remaining available land fronting NS tracks and connection across NS to MARTA station. Determine if GDOT-purchased right-of-way could accommodate station facilities and could be eligible for future in-kind match. Consider Amtrak's typical needs for track access, platform dimensions, parking, etc. Norfolk Southern has expressed interest in this site for Amtrak, as it would greatly benefit freight operations.

2. Update planning-level cost estimates and "Purpose & Need Statement"

The Atlanta MPO's long range transportation plan lists the construction cost at \$31 million, which is based on the old Northside Drive site. GDOT should update this estimate considering the current conditions of the Doraville site and determine if additional right-of-way is required. Cost estimates for a pedestrian connection across NS to the MARTA station should be determined, if it's not part of the Express Lane project. GDOT should also craft a Purpose and Need Statement leveraging passenger and freight rail data from the State Rail Plan, local transit information from the DeKalb and Gwinnett County Transit Plans and the ATL Regional Transit Plan, and projected Express Lane transit usage available from GDOT.

3. Identify Project Sponsor and Funding Opportunities

Amtrak typically does not sponsor station projects or own land. Other candidates include: GDOT, Assembly CID, City of Doraville, and the ATL. Federal funding opportunities could include USDOT competitive grant programs like CRISI (Consolidated Rail Infrastructure and Safety Improvements), FRA Federal-State Partnerships for State of Good Repair, and BUILD (Better Utilizing Investments to Leverage Development). Due to the transit link, FTA capital program funds may be an eligible source for portions of the project. The station relocation project is currently listed in the Atlanta MPO's long range transportation plan, making it eligible for federal funding; GDOT is currently listed as the project sponsor.

4. Begin Environmental Work

For most Amtrak station projects, an Environmental Assessment (EA) is the appropriate level of NEPA documentation and FRA is usually the lead federal agency with FTA sometimes acting as a participating agency. The 2015 GDOT Study would serve as the starting point for an EA as it outlines the need for the project, the current condition of the Peachtree Station, and several alternative sites. A phased implementation approach may be considered.

5. Pursue Funding and Continue Environmental, Design, and Implementation

With refined costs and project details developed during the environmental process, the project sponsor should pursue federal funding opportunities from USDOT and continue coordinating design with GDOT, NS, MARTA, the Integral Group, ARC, the ATL, and other stakeholders. Ensure updated cost and concept is reflected in the Atlanta MPO RTP and TIP. Consider innovative financing strategies and private partnerships.

Sample Amtrak Station Projects

City Of Dearborn Intermodal Rail Passenger Facility

Lead Federal Agency

Federal Railroad Administration

Level of Documentation

Environmental Assessment/FONSI with 4F

Sponsors

City of Dearborn, Michigan and Michigan DOT

Link

<https://www.fra.dot.gov/Elib/Document/144>

Summary

This document proposed to construct the Dearborn Intermodal Rail Passenger Facility, an approximately 23,000 square foot intermodal rail passenger facility, to replace an existing facility and to combine two existing rail stops in Dearborn. The project would support the existing Amtrak intercity service between Detroit (Pontiac), Michigan and Chicago, Illinois, the planned Midwest High Speed Rail service between Detroit and Chicago, and planned regional commuter rail service. The funding for this project was from the High-Speed Intercity Passenger Rail (HSIPR) Program. The funding was 80/20 federal/local and state match. MDOT was the recipient of the funding.

Ann Arbor Intermodal Station

Lead Federal Agency

Federal Railroad Administration

Level of Documentation

Environmental Assessment/FONSI

Sponsors

City of Ann Arbor, Michigan and Michigan DOT

Link

<https://www.a2gov.org/departments/systems-planning/planning-areas/transportation/Documents/AAS%20EA%20Compiled%20Sections%20Signed.pdf>

Summary

MDOT applied for and received from the Federal Railroad Administration (FRA) \$2.8 million in grant funding through the American Reinvestment and Recovery Act (ARRA), Pub. L. 111-5, in 2011 to complete the preliminary engineering and project level environmental documentation for a new intermodal station in Ann Arbor. Subsequently, MDOT sub-awarded this grant to the City of Ann Arbor for the completion of the work, with the City holding responsibility for managing the

work, contracts and procurement. The Project proposed to construct a new intermodal station, platform, and parking within the City of Ann Arbor. This Project supports both the existing and planned expansion of the Amtrak intercity service between Detroit/Pontiac, MI and Chicago, IL, as well as proposed regional commuter rail service between Detroit and Ann Arbor.

This EA evaluates the existing station location along with other Build Alternative sites in Ann Arbor, and assesses the environmental impacts of constructing and operating an intermodal station at each site along with the ability of the site to support current and future Intercity Passenger rail service, in addition to local and regional transit, pedestrian, and bicycle transportation. The existing Ann Arbor rail station opened in 1983 and is the busiest in the state, and it has not kept pace with increased intercity passenger rail ridership. It has limited capacity to provide for increased rail service (both intercity and proposed commuter rail) and the station itself is insufficient to accommodate existing passenger volumes.

Tri-Cities Area Multimodal Station

Lead Federal Agency

Federal Railroad Administration

Level of Documentation

Environmental Assessment/FONSI

Sponsor

Crater Planning District Commission

Link

https://www.craterpdc.org/transportation/documents/NEPA_Study_2014/Tri-Cities%20Signed%20Draft%20EA_Exec%20Summary.pdf

Summary

The Project involves the construction of a new multimodal station in the Tri-Cities area of Virginia, which includes the Cities of Petersburg, Colonial Heights and Hopewell (Tri-Cities). The proposed station will serve existing and future Amtrak regional and long distance trains, which operate at conventional speeds through the Tri-Cities area, and will also support the introduction of higher speed rail service along the Southeast High Speed Rail (SEHSR) Corridor. Additional station funding may be available from FTA and FHWA, so this EA included their participation as cooperating agencies.

Overall management for the EA was provided by the CPDC, who is FRA's state partner on the Project and was the sponsor for the environmental document. A Study Working Group (SWG) formed by CPDC, which is also described in the EA, consisting of local agencies and stakeholders, provided guidance for the EA process. These agencies reviewed the proposed project and environmental analyses and provided comments and input on the overall process.

In 2012 DRPT led a Pre-NEPA Evaluation Tri-Cities Area Multimodal Station Study.

Amtrak New Station Planning Process Outline

Amtrak has identified the following five high-level key steps to station renovation or new construction. These steps include planning, design, financial, funding, approval, and community participation milestones.

1. Concept Development;
2. Basis of Design;
3. Construction Documents;
4. Construction; and
5. Commissioning.

Stakeholders

Stakeholders involved in the station development process typically include:

- Amtrak
- USDOT
- Homeland Security
- State DOT
- Regional & local transportation authorities
- Host railroads; and
- Real estate developers

Concept Development

This step defines the project scope, schedule, funding, agreements, and management process. The step typically takes 6 - 15 months and collectively its components become the Basis of Design (BOD).

1. Project Scope and Architecture – functional requirements and facility sizing to be determined by Amtrak and project stakeholders. Based on projected ridership and service to be provided. Stakeholders must review prior to beginning design.
 - a. Amtrak typically coordinates internal reviews and acts as intermediary between project sponsor and host railroads.
2. Schedule – developed after the scope is defined.
3. Funding – Historically very little capital funding available from congress/FRA. Typically state and local partners fund station projects.
 - a. Both capital and operations funding agreements must be in place and define the relationships among Amtrak, host railroads, and locality.
 - b. Real estate transactional documents must govern Amtrak's access to and use of station facilities, including indemnification provisions.

Basis of Design

The station conceptual design is developed during the BOD, which typically includes 15 percent of the design and a schematic. Design alternatives are also developed to enable selection of a single preferred alternative.

Construction Documents

More detailed design phase culminating in 100 percent construction documents, including plans, specifications and cost estimates.

Construction

Station projects may follow a few different types of project delivery methods, including:

- Design-Bid-Build
- Design-Build
- Indefinite Delivery Indefinite Quantity (IDIQ)

The method may affect the specific construction process.

Commissioning and Station Opening

Step includes inspections during the construction process. Inspections include Amtrak requirements, owner's "punch list", and inspections by the local jurisdictions. Station opening requires moving in all Amtrak equipment, passenger seating, other amenities, and vendor coordination.

Amtrak ATL Service Characteristics and New Station Requirements

Amtrak's Long Distance Crescent line serves Atlanta. Crescent trains range in length from 830 to 903 feet. Atlanta's current Peachtree Station currently serves nearly 80,000 annual passengers.

Station Categories

Amtrak has four station categories offering varying levels of service and amenities:

1. Category 1 - Large;
2. Category 2 - Medium;
3. Category 3 - Caretaker; and
4. Category 4 - Shelter.

Atlanta's Peachtree Station shares aspects of Categories 2 and 3, but primarily falls under Category 2. A new station in Doraville would likely need to conform with Category 2, or "Medium" station standards.

Medium stations typically include a waiting area, ticket office, restrooms, and often a community space for other tenants providing services during business hours. On routes offering baggage service, the ticket office will incorporate baggage facilities. Most Medium station's are designed for 100,000-400,000 annual passengers.

Waiting Area Capacity:

Amtrak employs the following process to estimate waiting area capacity for a new station.

- 1) Determine daily ridership at the station
 - a) $\text{Daily ridership} = \text{Annual Ridership}/270$
 - b) $77,751/270 = 288$ daily ridership
- 2) Determine Peak Hour Ridership
 - a) $\text{Peak hour ridership} = \text{daily ridership}/\text{number of trains per day}$
 - b) $288/2 = 144$ peak hour ridership

- 3) Determine Waiting Area Space Requirements
 - a) Long Distance Service Requirements: Seated passenger area, and standing passenger areas
 - b) Seated passenger Area = $.75 * \text{Peak Hour Ridership} * 20 \text{ sqft}$
 - i) $.75 * 144 * 20 = 2160$ square feet for Seated Passengers
 - c) Standing passenger Area = $.25 * \text{Peak Hour Ridership} * 10 \text{ sqft}$
 - i) $.25 * 144 * 10 = 360$ square feet for Standing Passengers

The total waiting area space requirements for a new Atlanta station is 2,520 square feet (using FY2017 ridership figures).

Minimum Ticketing Area Requirements

Minimum ticket area requirements include two ticket windows, each with an agent's work area, the counter, and a queue area. The total square footage of approximately 365 square feet.

Additional Station Components

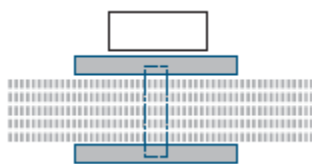
Additional station components will require more square footage, however the amount of space required for each can vary significantly depending on the station layout. Such station components include:

- 1) Amtrak support spaces (offices, cash handling room, storage, break room, staff restrooms, equipment rooms).
- 2) Baggage handling – depends on level of baggage operations and security measures
- 3) Baggage claim
- 4) Passenger restrooms
- 5) Vending/food service amenities
- 6) Public lockers
- 7) Information counter (multimodal stations)
- 8) Parking (determined by local zoning codes)
- 9) Bike racks/bike share

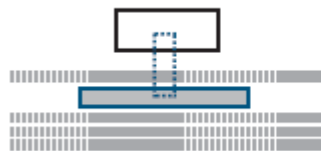
Platform Design

The platform design process must meet specific Amtrak engineering requirements, however the design standards of the host railroad are usually followed, with any inconsistencies reconciled between Amtrak and the host. FRA also has a role in reviewing plans. The specific role varies based on whether Amtrak is the “responsible party” with regard to ADA.

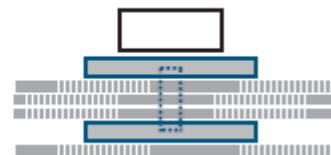
Side platforms or Island platforms are typically used at Class 2 Amtrak stations. Both typically require overhead walkways and escalators. Side platforms are typically used for Long Distance service while island platforms are more common for commuter service.



Side Platform Example



Island Platform 1



Island Platform 2

All Long Distance platforms must be a minimum of 1200 feet long to ensure safe boardings and alightings at all train cars.

Side platforms should have a minimum width of 12 feet, with a preferred width of 15 feet. Island platforms have a minimum width of 20 feet with a preferred width of 24 feet.

Parking Requirements

- Locate structured parking adjacent to the station building, rather than within, above, or below it;
- Locate parking spaces for Amtrak's Long Distance passengers as close to the station as possible, due to the likelihood of passengers carrying baggage (this must be balanced with the need to locate short-term and drop-off spaces close to the building as well)
- Distribute ADA compliant spaces among all parking types (short- and long-term, pick-up/drop-off, etc.);
- Determine the need for separate Amtrak employee parking at stations with larger staffing levels or a crew base; and
- Use 90-degree parking stalls for both short- and long-term parking where possible.

Other Station Site Criteria to Consider

- Support community land use plans (traffic patterns, environmental factors, economic benefits, long range plans)
- Sufficient space (parking, bus turn-around, kiss-n-ride, future expansion and development)
- Amtrak maintenance or servicing facility, if needed
- Railroad agreement (tangent track, separation from crossovers and turnouts, train servicing facilities)
- Proximity to trip origins and destinations (convenience to passengers)
- Noise impacts
- Trip time (operations, convenience for track owner/operator)
- Traffic impacts (at-grade crossings, site access / circulation, peak time operations if future service shifts to daytime)
- Convenient transportation connectivity (road network, convenience for park-n-ride, drop offs, bus transit)
- Cater to nighttime service (hotel, restaurants, public transportation options, etc.)
- Cost

Preliminary Cost Estimates

- Current Parcel Ownership
- Parking
 - Lot drainage, curb and gutter, lighting
- Station Building
 - Utilities, landscaping
- Bridge, if needed
 - Cost of engineering and construction
- Platform (level boarding)

- canopy, lighting, public address, and information display
- Outdoor lighting
- Track and Drainage Cost
 - New siding and track if needed
- Other considerations: maintenance and maintenance facilities, future service, road improvements, environmental mitigation

Sources:

Assembly CID:

<https://www.assemblycid.org/home>

Amtrak Program Planning Guidelines:

[http://nrvrc.org/nrvpassengerrailstudy/resources/research/national/Amtrak Station Program Planning Guidelines.pdf](http://nrvrc.org/nrvpassengerrailstudy/resources/research/national/Amtrak%20Station%20Program%20Planning%20Guidelines.pdf)

Amtrak state profiles: <https://www.amtrak.com/state-fact-sheets>

GDOT 2015 Study:

PT Common\Rail Files\Planning\Passenger Rail\Amtrak - Doraville

Research\[NorthsideIntermodal AmtrakRelocation PlanningSummary June2014.pdf](#)

MARTA TOD project history: <https://brookhavenpost.co/tag/brookhaven-marta-tod/>

MARTA TOD Update: <https://www.reporternewspapers.net/2019/03/01/brookhaven-ready-to-restart-marta-station-redevelopment-talks/>

DeKalb County tax parcel map:

<https://dekalbgis.maps.arcgis.com/apps/webappviewer/index.html?id=f241af753f414cdfa31c1fdef0924584>

APPENDIX E:

Section 130 Project Tables

**GEORGIA
STATE RAIL
PLAN - 2021**





Georgia State Rail Plan

Appendix E:

Section 130 Project Tables



1. Section 130 Project Tables

1.1. Summary Tables

Funding Year	Total Cost	Phases Implemented
2020	\$12,464,721	52
2021	\$16,602,201	73
2022	\$2,907,200	7
2023	\$5,268,533	7
Total	\$37,242,655	139

Project Type	Total Cost	Number of Projects
Railroad Crossing Consolidation	\$3148,972	6
Railroad Crossing Rehab	\$31,386	1
Railroad Crossing Signing and Marking	\$3,401,848	12
Railroad Crossing Warning Devices	\$30,660,450	90
Total	\$37,242,655	109

Phase	Count
PE	21
ROW	4
UTL	5
CST	109



1.2 Funded Rail Crossing Projects 2020-2023

Number	ID	Description	Improvement Type	Primary Work Type	Year	Phase	Cost	Let Responsibility
1	0011727	RAILROAD CROSSING WARNING DEVICES @ 5 NS LOCS IN ALBANY	Safety Improvements	RRX Warning Device	2021	CST	\$ 1,400,000	DOT
1	0011727	RAILROAD CROSSING WARNING DEVICES @ 5 NS LOCS IN ALBANY	Safety Improvements	RRX Warning Device	2021	PE	\$ 60,000	DOT
1	0011727	RAILROAD CROSSING WARNING DEVICES @ 5 NS LOCS IN ALBANY	Safety Improvements	RRX Warning Device	2021	ROW	\$ 140,000	DOT
2	0013095	COVE RD EXT FM REDWINE COVE RD TO EBER RD; INC 4 NS RR LOCS	Construction of New Roads	RRX Warning Device	2022	ROW	\$ 955,000	DOT
2	0013095	COVE RD EXT FM REDWINE COVE RD TO EBER RD; INC 4 NS RR LOCS	Construction of New Roads	RRX Warning Device	2023	CST	\$ 2,683,033	DOT
2	0013095	COVE RD EXT FM REDWINE COVE RD TO EBER RD; INC 4 NS RR LOCS	Construction of New Roads	RRX Warning Device	2023	UTL	\$ 503,000	DOT
3	0013118	CS 2046/HARPER STREET @ CSX #050404G IN PALMETTO	Safety Improvements	RRX Consolidation	2021	CST	\$ 16,272	FA
3	0013118	CS 2046/HARPER STREET @ CSX #050404G IN PALMETTO	Safety Improvements	RRX Consolidation	2021	UTL	\$ 30,000	FA
4	0013119	CS 2049/VINE ST @ CSX #050405N; INC COBB ST WIDENING	Safety Improvements	RRX Warning Device	2020	PE	\$ 30,000	DOT
4	0013119	CS 2049/VINE ST @ CSX #050405N; INC COBB ST WIDENING	Safety Improvements	RRX Warning Device	2020	ROW	\$ 300,000	DOT
4	0013119	CS 2049/VINE ST @ CSX #050405N; INC COBB ST WIDENING	Safety Improvements	RRX Warning Device	2021	CST	\$ 449,821	DOT
4	0013119	CS 2049/VINE ST @ CSX #050405N; INC COBB ST WIDENING	Safety Improvements	RRX Warning Device	2021	UTL	\$ 60,000	DOT
5	0013284	CS 522/14TH AVE @ NS #723009J IN CORDELE	Safety Improvements	RRX Warning Device	2023	CST	\$ 225,000	FA
6	0013286	CR 181/CONNELL LANE @ NS #723164N	Safety Improvements	RRX Warning Device	2021	CST	\$ 400,000	FA
7	0013709	CS 1388/WELCOME ALL ROAD @ CSX #638616P IN EAST POINT	Safety Improvements	RRX Warning Device	2021	CST	\$ 150,000	FA
8	0013957	CS 830/BOWERS STREET @ HRC #717472F IN ROYSTON	Safety Improvements	RRX Warning Device	2021	CST	\$ 200,000	FA
9	0013959	CS 833/COLLEGE STREET @ HRC #717474U IN ROYSTON	Safety Improvements	RRX Warning Device	2021	CST	\$ 200,000	FA
10	0015274	GLOVER ROAD @ NS #719385J & @ 719225V; INC NEW CROSSING	Safety Improvements	RRX Consolidation	2021	PE	\$ 25,000	DOT
10	0015274	GLOVER ROAD @ NS #719385J & @ 719225V; INC NEW CROSSING	Safety Improvements	RRX Consolidation	2022	CST	\$ 882,700	DOT
11	0015364	CS 502/SOUTH KELLY STREET @ NS #726712J IN TALLAPOOSA	Safety Improvements	RRX Warning Device	2020	CST	\$ 348,309	FA
12	0015405	WARNING DEVICE UPGRADES @ 12 ABR LOCS IN CLARKE & OCONEE CO	Safety Improvements	RRX Warning Device	2021	CST	\$ 6,000	FA
13	0015406	WARNING DEVICE UPGRADES @ 23 GRWR LOCS IN WALTON COUNTY	Safety Improvements	RRX Warning Device	2021	CST	\$ 8,500	FA
14	0015407	WARNING DEVICE UPGRADES @ 113 HRT LOCS IN DISTRICT 1	Safety Improvements	RRX Warning Device	2021	CST	\$ 42,000	FA



Number	ID	Description	Improvement Type	Primary Work Type	Year	Phase	Cost	Let Responsibility
15	0015414	SIGNING & MARKING @ 104 CSX LOCS IN DISTRICT 5	Safety Improvements	RRX Signing & Marking	2021	CST	\$ 500,000	DOT
16	0015832	CS 610/SECOND STREET @ CSX #638443C IN WOODLAND	Safety Improvements	RRX Consolidation	2023	CST	\$ 7,500	FA
17	0015932	SR 98 @ NS #717696D IN COMMERCE	Safety Improvements	RRX Warning Device	2021	CST	\$ 300,000	FA
18	0015933	SR 13 @ NS #717876B	Safety Improvements	RRX Warning Device	2021	CST	\$ 425,000	FA
19	0015972	CR 239/CARPENTER ROAD @ CSX #340578E	Safety Improvements	RRX Warning Device	2020	CST	\$ 204,954	FA
20	0016082	SR 7/US 41 @ NS #637170G IN TIFTON	Safety Improvements	RRX Warning Device	2021	CST	\$ 130,000	FA
21	0016315	SIGNING & MARKING @ 30 NS LOCS IN BLECKLEY; DODGE & TWIGGS	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 172,416	DOT
22	0016316	SIGNING & MARKING @ 52 CSX LOCS IN BARTOW & POLK	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 251,644	DOT
23	0016377	RAILROAD CROSSING WARNING DEVICES @ 51 LOCS IN DIST 6 & 7	Safety Improvements	RRX Warning Device	2020	CST	\$ 13,887	FA
24	0016378	SIGNING & MARKING @ 74 GFR LOCS IN DISTRICT 4	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 251,818	DOT
25	0016380	SIGNING & PAVEMENT MARKING @ 41 NS LOCATIONS IN DISTRICT 3	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 223,640	DOT
26	0016381	SIGNING & PAVEMENT MARKING @ 52 NS LOCS IN DISTRICT 3 & 4	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 268,476	DOT
27	0016383	CS 2355/TELFAR STREET @ NS #734184F IN SAVANNAH	Safety Improvements	RRX Warning Device	2020	CST	\$ 307,647	FA
28	0016384	SIGNING & PAVEMENT MARKING @ 55 GSR LOC IN BULLOCH & CANDLER	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 188,217	DOT
29	0016392	CS 535/NELSON AVE @ CSX #641187S IN GARDEN CITY	Safety Improvements	RRX Warning Device	2020	CST	\$ 295,725	FA
30	0016393	CR 268/WHITE RIVER ROAD @ CSX #639206U	Safety Improvements	RRX Warning Device	2020	CST	\$ 224,054	FA
31	0016395	CR 83/VICTORY DRIVE @ CSX #638780T	Safety Improvements	RRX Warning Device	2020	CST	\$ 274,311	FA
32	0016396	SIGNING & MARKING @ 64 RR LOC IN BRYAN; CAMDEN; LIBERTY & WARE	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 289,402	DOT
33	0016408	GSR RAILROAD WARNING DEV UPGRADES @ 26 LOC IN BULLOCH & CANDLER	Safety Improvements	RRX Warning Device	2020	CST	\$ 3,011	FA
34	0016536	SR 32 @ GSR #635414G IN DAWSON	Safety Improvements	RRX Warning Device	2020	CST	\$ 299,545	FA
35	0016619	SR 22 @ CSX #638805L IN COMER	Safety Improvements	RRX Warning Device	2020	CST	\$ 216,957	FA
36	0016620	CS 600/HARPER STREET @ CSX #638774P IN ELBERTON	Safety Improvements	RRX Consolidation	2022	CST	\$ 7,500	NO
37	0016621	CS 890/N ERWIN STREET @ CSX #639342U IN CARTERSVILLE	Safety Improvements	RRX Warning Device	2020	CST	\$ 255,261	FA
38	0016622	CR 107/PAINE CROSSING ROAD @ CSX #279635C	Safety Improvements	RRX Warning Device	2020	CST	\$ 279,801	FA
39	0016623	CS 765/MCKINLEY STREET @ CSX #279568K IN UNION POINT	Safety Improvements	RRX Warning Device	2020	CST	\$ 364,667	FA
40	0016624	CS 608/ANDREW STREET @ GSR #733846A IN CUTHBERT	Safety Improvements	RRX Warning Device	2020	CST	\$ 222,474	FA



Number	ID	Description	Improvement Type	Primary Work Type	Year	Phase	Cost	Let Responsibility
41	0016784	SIGNING & MARKING @ 51 NS LOCS IN DISTRICT 3	Safety Improvements	RRX Signing & Marking	2020	CST	\$ 260,234	DOT
42	0016785	CR 62/JOHNSTON ROAD @ NS #718213X IN ORCHARD HILL	Safety Improvements	RRX Warning Device	2020	CST	\$ 309,255	FA
43	0016786	CR 503/SWINT ROAD @ NS #718214E IN ORCHARD HILL	Safety Improvements	RRX Warning Device	2020	CST	\$ 313,754	FA
44	0016790	CS 2355/TELFAR RD @ CSX #734184F IN SAVANNAH	Safety Improvements	RRX Warning Device	2020	CST	\$ 28,696	FA
45	0016800	RAILROAD CROSSINGS @ 6 LOCS IN BRANTLEY; CHATHAM & WAYNE	Safety Improvements	RRX Signing & Marking	2021	CST	\$ 350,000	DOT
46	0016801	CR 102/HOKE ROAD @ CSX #637236E	Safety Improvements	RRX Warning Device	2020	PE	\$ 22,000	FA
46	0016801	CR 102/HOKE ROAD @ CSX #637236E	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
47	0016868	CR 182/HENDRIX ROAD @ CSX #639108D	Safety Improvements	RRX Warning Device	2020	PE	\$ 22,000	FA
47	0016868	CR 182/HENDRIX ROAD @ CSX #639108D	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
48	0016871	GFR RAILROAD WARNING DEVICES UPGRADES @ 53 LOCS IN DIST 4	Safety Improvements	RRX Warning Device	2020	CST	\$ 71,670	FA
49	0016895	CS 1257/N BROADWAY STREET @ GFR #637205F IN ALBANY	Safety Improvements	RRX Warning Device	2020	CST	\$ 273,688	FA
50	0016896	CR 540/HOLLY DRIVE @ GFR #637224K IN ALBANY	Safety Improvements	RRX Warning Device	2020	CST	\$ 244,505	FA
51	0016900	SR 4BU @ NS #732763H IN WADLEY	Safety Improvements	RRX Warning Device	2020	CST	\$ 345,736	FA
52	0016901	CR 76/HONEYSUCKLE DRIVE @ GRF #637225S	Safety Improvements	RRX Warning Device	2020	CST	\$ 227,780	FA
53	0016902	CR 1363/WALDEN ROAD @ NS #729376M	Safety Improvements	RRX Warning Device	2021	CST	\$ 300,000	FA
54	0016922	CS 592/CS 1062/SCHOOL STREET @ NS #718184P	Safety Improvements	RRX Warning Device	2021	CST	\$ 300,000	FA
55	0016951	CR 6109/RAINES AVE/TUFT SPRINGS ROAD @ NS #904097X	Safety Improvements	RRX Warning Device	2020	CST	\$ 250,275	FA
56	0016955	CR 185/ADCOCK ROAD @ NS #723184A	Safety Improvements	RRX Warning Device	2020	CST	\$ 354,787	FA
57	0016956	CR 108/RIGDON AULTMAN ROAD @ NS #723684X	Safety Improvements	RRX Warning Device	2021	CST	\$ 300,000	FA
58	0016957	CR 37/BRIGMAN ROAD @ NS #723572Y	Safety Improvements	RRX Warning Device	2021	CST	\$ 300,000	FA
59	0016958	CR 472/THOMPSON ROAD @ NS #723562T	Safety Improvements	RRX Warning Device	2020	CST	\$ 431,137	FA
60	0016959	CR 221/HALL ROAD @ NS #723563A	Safety Improvements	RRX Warning Device	2020	CST	\$ 345,376	FA
61	0016960	CR 121/HUNTINGTON ROAD @ NS #719471F	Safety Improvements	RRX Warning Device	2020	CST	\$ 290,342	FA
62	0016961	CR 95/BROWN ROAD @ NS #718842K	Safety Improvements	RRX Warning Device	2020	CST	\$ 497,659	FA
63	0016962	CR 586/OLD JESUP ROAD @ NS #637790V	Safety Improvements	RRX Warning Device	2021	CST	\$ 300,000	FA
64	0016963	CR 586/OLD JESUP ROAD @ CSX #637790V	Safety Improvements	RRX Warning Device	2020	PE	\$ 14,500	FA
64	0016963	CR 586/OLD JESUP ROAD @ CSX #637790V	Safety Improvements	RRX Warning Device	2021	CST	\$ 285,000	FA
65	0016964	CR 17/OLD RUMBLE ROAD @ NS #718342M	Safety Improvements	RRX Warning Device	2020	CST	\$ 422,784	FA
66	0016972	CS 1428/EAST PARK AVE @ CPR #732401W IN VALDOSTA	Safety Improvements	RRX Warning Device	2020	CST	\$ 213,722	FA
67	0016973	SR 135 @ CPR #732485U	Safety Improvements	RRX Warning Device	2020	CST	\$ 205,221	FA
68	0016974	SR 7/US 41 @ CPR #904061P IN VALDOSTA	Safety Improvements	RRX Warning Device	2021	CST	\$ 305,000	FA



Number	ID	Description	Improvement Type	Primary Work Type	Year	Phase	Cost	Let Responsibility
69	0016976	LED UPGRADES @ 17 CSX LOCS IN COLUMBIA & RICHMOND COUNTY	Safety Improvements	RRX Purchase/Rehab	2020	CST	\$ 31,386	FA
70	0016983	SIGNING & MARKING @ 72 CSX LOCS IN DISTRICT 6	Safety Improvements	RRX Signing & Marking	2021	CST	\$ 330,000	DOT
71	0016988	CS 816/W LINE STREET @ CSX #340509W IN CALHOUN	Safety Improvements	RRX Warning Device	2020	PE	\$ 27,000	FA
71	0016988	CS 816/W LINE STREET @ CSX #340509W IN CALHOUN	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
72	0016989	SR 53 SPUR @ CSX #340508P IN CALHOUN	Safety Improvements	RRX Warning Device	2020	PE	\$ 27,000	FA
72	0016989	SR 53 SPUR @ CSX #340508P IN CALHOUN	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
73	0016990	SR 61/SR 113 @ CSX #340441K IN CARTERSVILLE	Safety Improvements	RRX Warning Device	2020	PE	\$ 27,000	FA
73	0016990	SR 61/SR 113 @ CSX #340441K IN CARTERSVILLE	Safety Improvements	RRX Warning Device	2021	CST	\$ 350,000	FA
74	0016991	CR 2564/MILL STREET @ CSX #279443K IN AUGUSTA	Safety Improvements	RRX Warning Device	2022	CST	\$ 250,000	FA
74	0016991	CR 2564/MILL STREET @ CSX #279443K IN AUGUSTA	Safety Improvements	RRX Warning Device	2022	PE	\$ 22,000	FA
75	0016992	CR 2774/FENWICK STREET @ CSX #639951V IN AUGUSTA	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
75	0016992	CR 2774/FENWICK STREET @ CSX #639951V IN AUGUSTA	Safety Improvements	RRX Warning Device	2021	PE	\$ 22,000	FA
76	0017008	LED UPGRADES @ 49 NS LOCS IN CRISP; DOOLY; TIFT & TURNER	Safety Improvements	RRX Warning Device	2020	CST	\$ 1,236,408	FA
77	0017063	SR 32/SR 112 @ NS #723622A IN ASHBURN	Safety Improvements	RRX Warning Device	2021	CST	\$ 125,000	DOT
78	0017088	CR 34/RUMBLE ROAD @ NS #718345H	Safety Improvements	RRX Warning Device	2023	CST	\$ 550,000	DOT
79	0017109	WARNING DEVICE UPGRADES @ 23 CSX LOCS IN DISTRICT 6 & 7	Safety Improvements	RRX Warning Device	2021	CST	\$ 265,000	FA
80	0017132	CS 832/PARK AVE @ CSX #638725T IN LAGRANGE	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
80	0017132	CS 832/PARK AVE @ CSX #638725T IN LAGRANGE	Safety Improvements	RRX Warning Device	2021	PE	\$ 20,900	FA
81	0017133	CS 798/MULBERRY STREET @ CSX #050491M IN LAGRANGE	Safety Improvements	RRX Warning Device	2020	PE	\$ 16,900	FA
81	0017133	CS 798/MULBERRY STREET @ CSX #050491M IN LAGRANGE	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
82	0017137	LED UPGRADES @ 29 NS LOCS IN BIBB; DOOLY & HOUSTON	Safety Improvements	RRX Warning Device	2020	CST	\$ 625,266	FA
83	0017166	CSX WARNING DEVICE UPGRADES FM ATL TO GRAYSVILLE @ 66 LOCS	Safety Improvements	RRX Warning Device	2021	CST	\$ 86,708	FA
84	0017177	SR 42 @ NS #718330T & CS 725/TIFT COLLEGE DR @ NS #718332G	Safety Improvements	RRX Consolidation	2021	ROW	\$ 20,000	DOT
84	0017177	SR 42 @ NS #718330T & CS 725/TIFT COLLEGE DR @ NS #718332G	Safety Improvements	RRX Consolidation	2022	CST	\$ 750,000	DOT



Number	ID	Description	Improvement Type	Primary Work Type	Year	Phase	Cost	Let Responsibility
84	0017177	SR 42 @ NS #718330T & CS 725/TIFT COLLEGE DR @ NS #718332G	Safety Improvements	RRX Consolidation	2022	UTL	\$ 40,000	DOT
85	0017179	SIGNING & MARKING @ 79 GCR & SVHO LOCS IN DIST 5	Safety Improvements	RRX Signing & Marking	2021	CST	\$ 316,000	DOT
86	0017181	RAILROAD WARNING DEVICES @ 30 CPR LOC IN LAMAR & UPSON COUNTY	Safety Improvements	RRX Warning Device	2020	CST	\$ 42,425	FA
87	0017184	CR 375/CR 711/WASH JOHNSON ROAD @ CSX #050421X	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
87	0017184	CR 375/CR 711/WASH JOHNSON ROAD @ CSX #050421X	Safety Improvements	RRX Warning Device	2021	PE	\$ 27,000	FA
88	0017273	CS 636/E 39TH STREET @ SVHO #641105H IN SAVANNAH	Safety Improvements	RRX Warning Device	2021	CST	\$ 235,000	FA
89	0017274	CS 657/E 35TH STREET @ SVHO #641122Y IN SAVANNAH	Safety Improvements	RRX Warning Device	2021	CST	\$ 216,000	FA
90	0017275	CS 764/E PARK AVE @ SVHO #641127H IN SAVANNAH	Safety Improvements	RRX Warning Device	2021	CST	\$ 278,000	FA
91	0017276	CS 769/E WALDBURG STREET @ SVHO #641128P IN SAVANNAH	Safety Improvements	RRX Warning Device	2021	CST	\$ 236,000	FA
92	0017277	CS 772/E BOLTON STREET @ SVHO #641129W IN SAVANNAH	Safety Improvements	RRX Warning Device	2021	CST	\$ 210,000	FA
93	0017393	SR 101 @ CSX #639203Y IN ROCKMART	Safety Improvements	RRX Warning Device	2021	CST	\$ 150,000	FA
94	0017426	OLD HALL STATION RD @ 2 CSX LOCS & GRIFFIN RD @ 1 CSX LOC	Safety Improvements	RRX Consolidation	2021	PE	\$ 70,000	DOT
94	0017426	OLD HALL STATION RD @ 2 CSX LOCS & GRIFFIN RD @ 1 CSX LOC	Safety Improvements	RRX Consolidation	2023	CST	\$ 200,000	DOT
94	0017426	OLD HALL STATION RD @ 2 CSX LOCS & GRIFFIN RD @ 1 CSX LOC	Safety Improvements	RRX Consolidation	2023	UTL	\$ 1,100,000	DOT
95	0017445	CR 259/J C HARPER ROAD @ CSX #638188V	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
95	0017445	CR 259/J C HARPER ROAD @ CSX #638188V	Safety Improvements	RRX Warning Device	2021	PE	\$ 20,000	FA
96	0017446	CS 516/THOMAS STREET @ CSX #638262X IN FITZGERALD	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
96	0017446	CS 516/THOMAS STREET @ CSX #638262X IN FITZGERALD	Safety Improvements	RRX Warning Device	2021	PE	\$ 20,000	FA
97	0017447	CR 275/WILLY ANDERSON ROAD @ CSX #638193S	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
97	0017447	CR 275/WILLY ANDERSON ROAD @ CSX #638193S	Safety Improvements	RRX Warning Device	2021	PE	\$ 20,000	FA
98	0017448	CR 189/WHIPPORWILL ROAD @ CSX #638190W	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
98	0017448	CR 189/WHIPPORWILL ROAD @ CSX #638190W	Safety Improvements	RRX Warning Device	2021	PE	\$ 20,000	FA
99	0017449	CR 528/BRITT STILL ROAD @ CSX #637578E	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
99	0017449	CR 528/BRITT STILL ROAD @ CSX #637578E	Safety Improvements	RRX Warning Device	2021	PE	\$ 20,000	FA
100	0017450	CR 71/CR 442/ROBIN LANE @ CSX #637244W	Safety Improvements	RRX Warning Device	2021	CST	\$ 250,000	FA
100	0017450	CR 71/CR 442/ROBIN LANE @ CSX #637244W	Safety Improvements	RRX Warning Device	2021	PE	\$ 20,000	FA



Number	ID	Description	Improvement Type	Primary Work Type	Year	Phase	Cost	Let Responsibility
101	0017451	CS 1297/E BROAD AVE @ GFR #723239K IN ALBANY	Safety Improvements	RRX Warning Device	2021	CST	\$ 248,000	FA
102	0017452	CR 76/HONEYSUCKLE DRIVE @ GFR #723228X	Safety Improvements	RRX Warning Device	2021	CST	\$ 222,000	FA
103	0017453	CR 466/GRAVEL HILL ROAD @ GFR #723227R	Safety Improvements	RRX Warning Device	2021	CST	\$ 222,000	FA
104	0017456	CS 1419/ALFRED STREET @ NS #734175G IN SAVANNAH	Safety Improvements	RRX Warning Device	2021	CST	\$ 375,000	FA
105	0017457	CR 347/MONROE MILL ROAD @ NS #719453H	Safety Improvements	RRX Warning Device	2021	CST	\$ 400,000	FA
106	0017458	CR 184/OLD JACKSONVILLE ROAD @ NS #719451U	Safety Improvements	RRX Warning Device	2021	CST	\$ 400,000	FA
107	0017459	CR 114/NESBIT ROAD @ NS #729074K	Safety Improvements	RRX Warning Device	2021	CST	\$ 400,000	FA
108	0017460	CS 603/CLIFTON BRADLEY DRIVE @ NS #733499F IN OGLETHORPE	Safety Improvements	RRX Warning Device	2021	CST	\$ 400,000	FA
109	0017461	CS 897/S TOOMBS STREET @ NS #723542G IN VALDOSTA	Safety Improvements	RRX Warning Device	2021	CST	\$ 375,000	FA
Total							\$37,242,655	

APPENDIX F: Public Outreach Survey Results

**GEORGIA
STATE RAIL
PLAN - 2021**



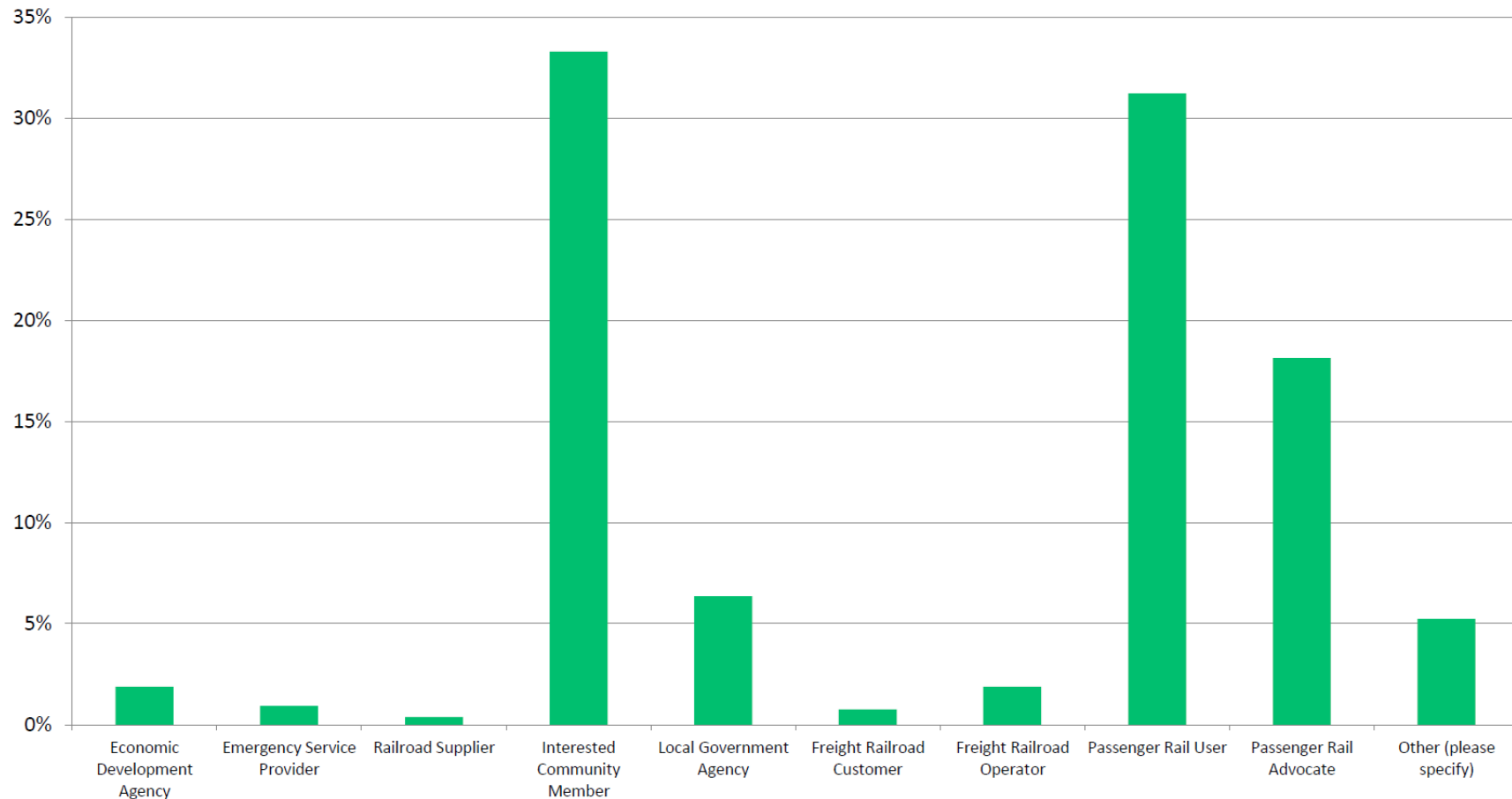


Georgia State Rail Plan

Appendix F: Public Outreach Survey Results

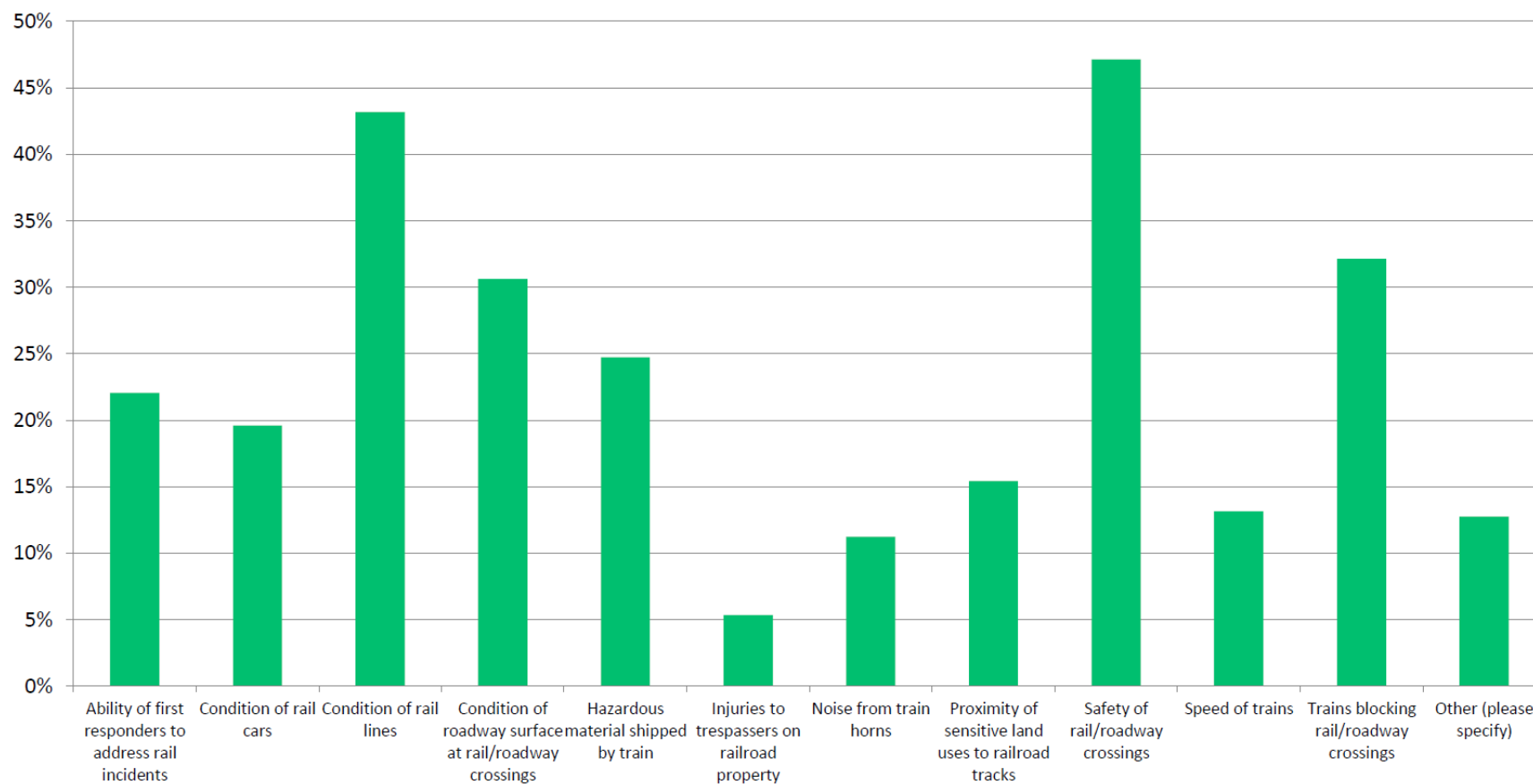


How would you best categorize your role in rail transportation?



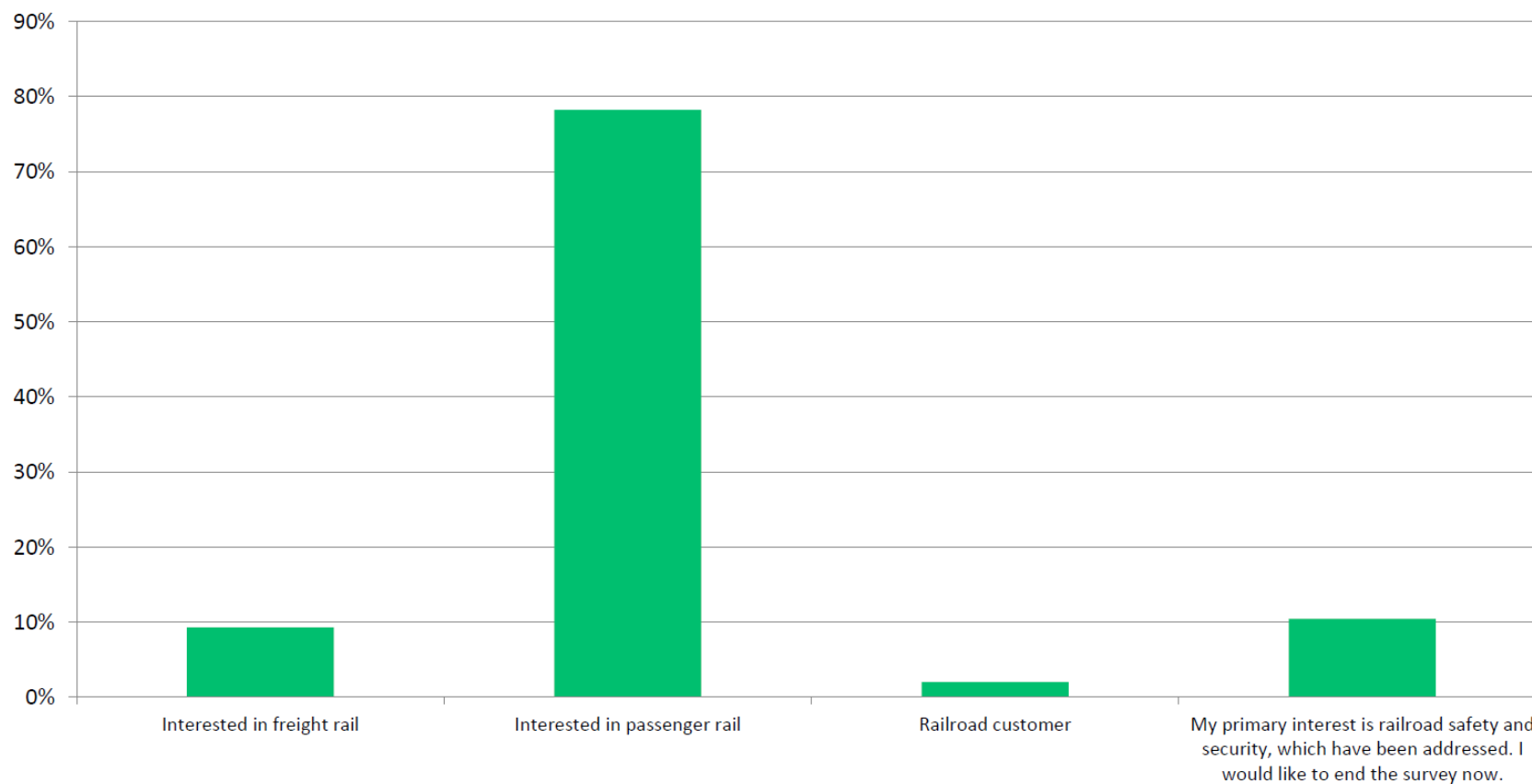


Please select your top three safety or community impact concerns related to rail transportation in Georgia.



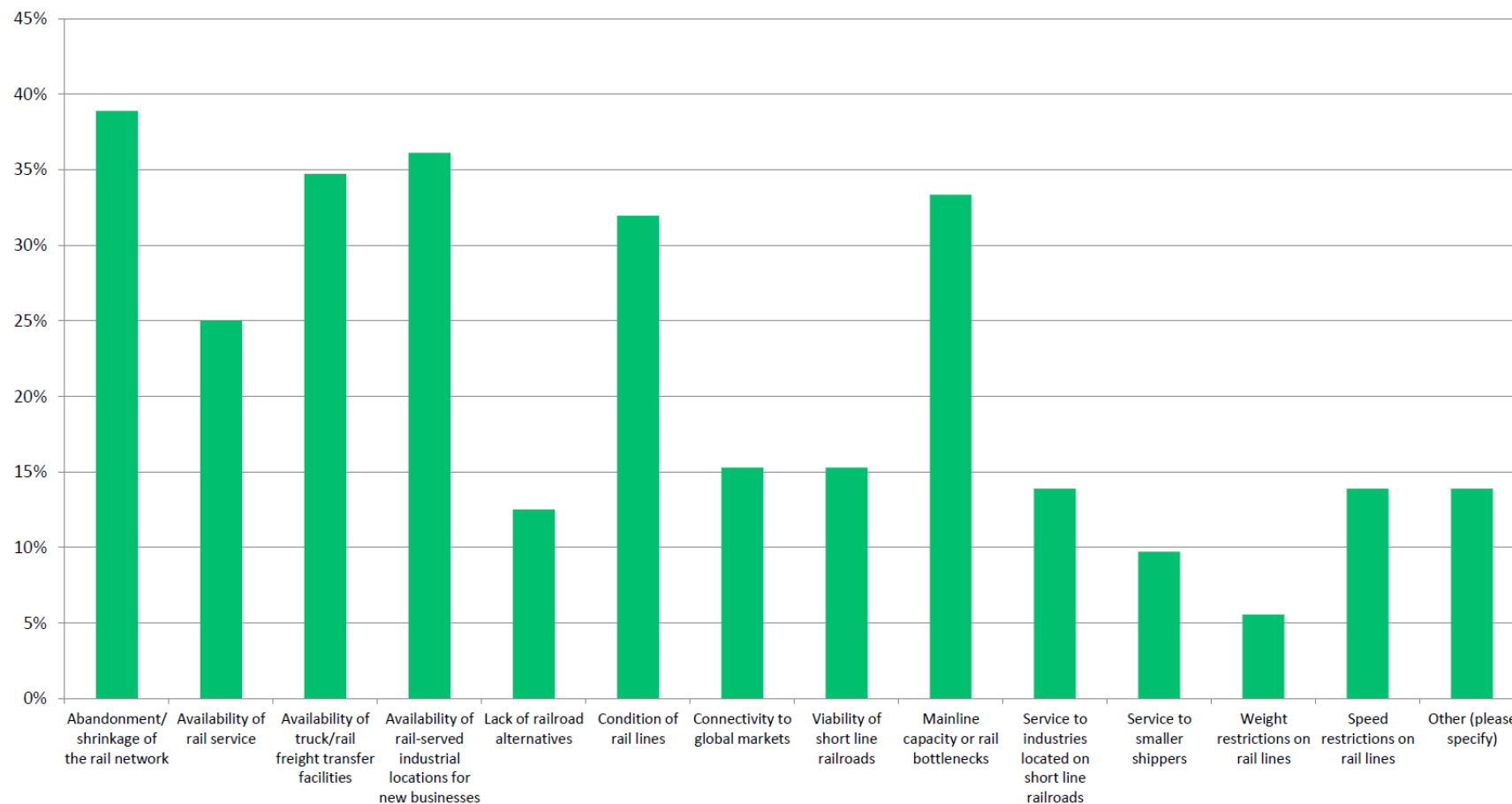


Select your primary interest in rail transportation in Georgia. Please note you will have an opportunity to participate in other areas of interest at the end of each section of the survey.



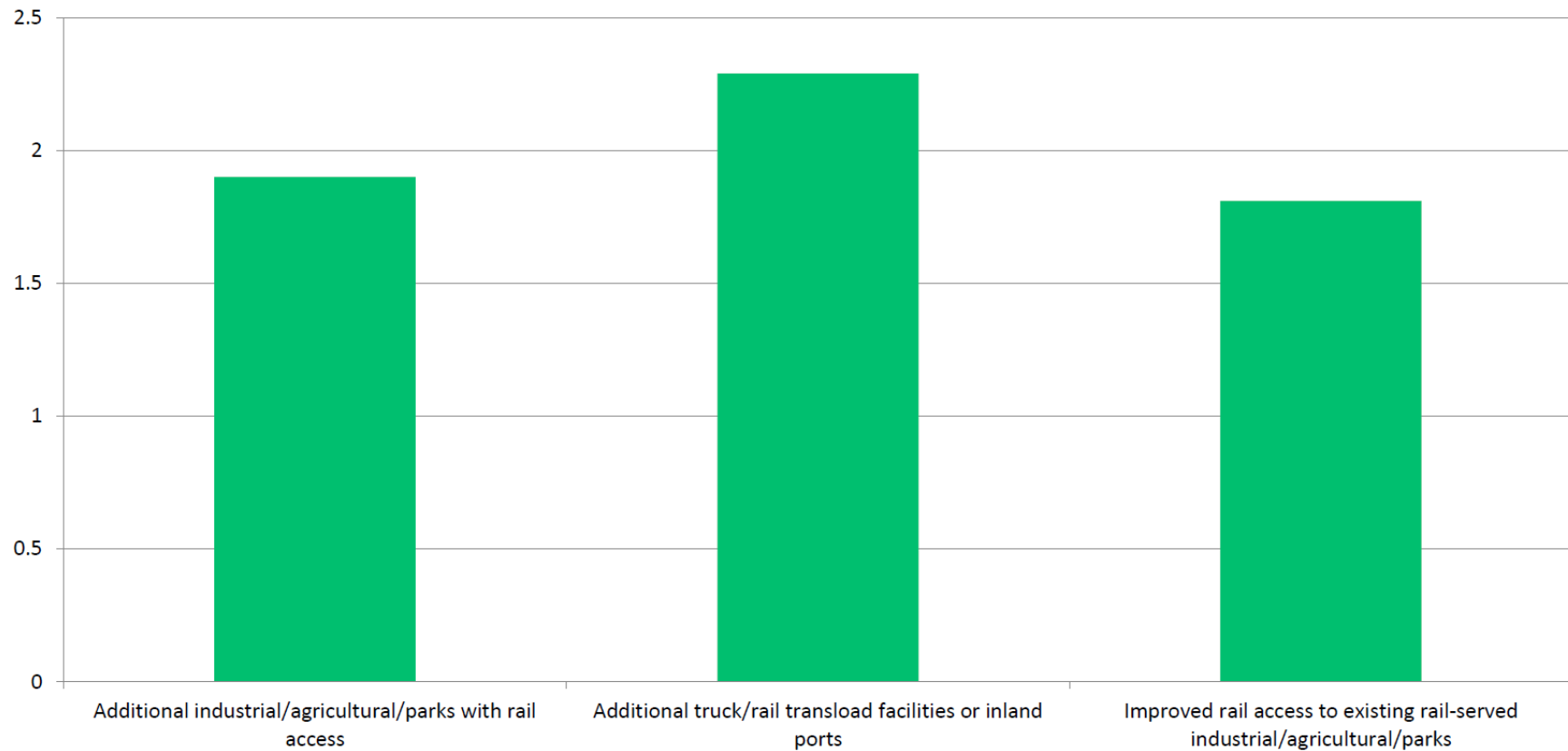


Please select your top three concerns related to freight rail transportation in the state:



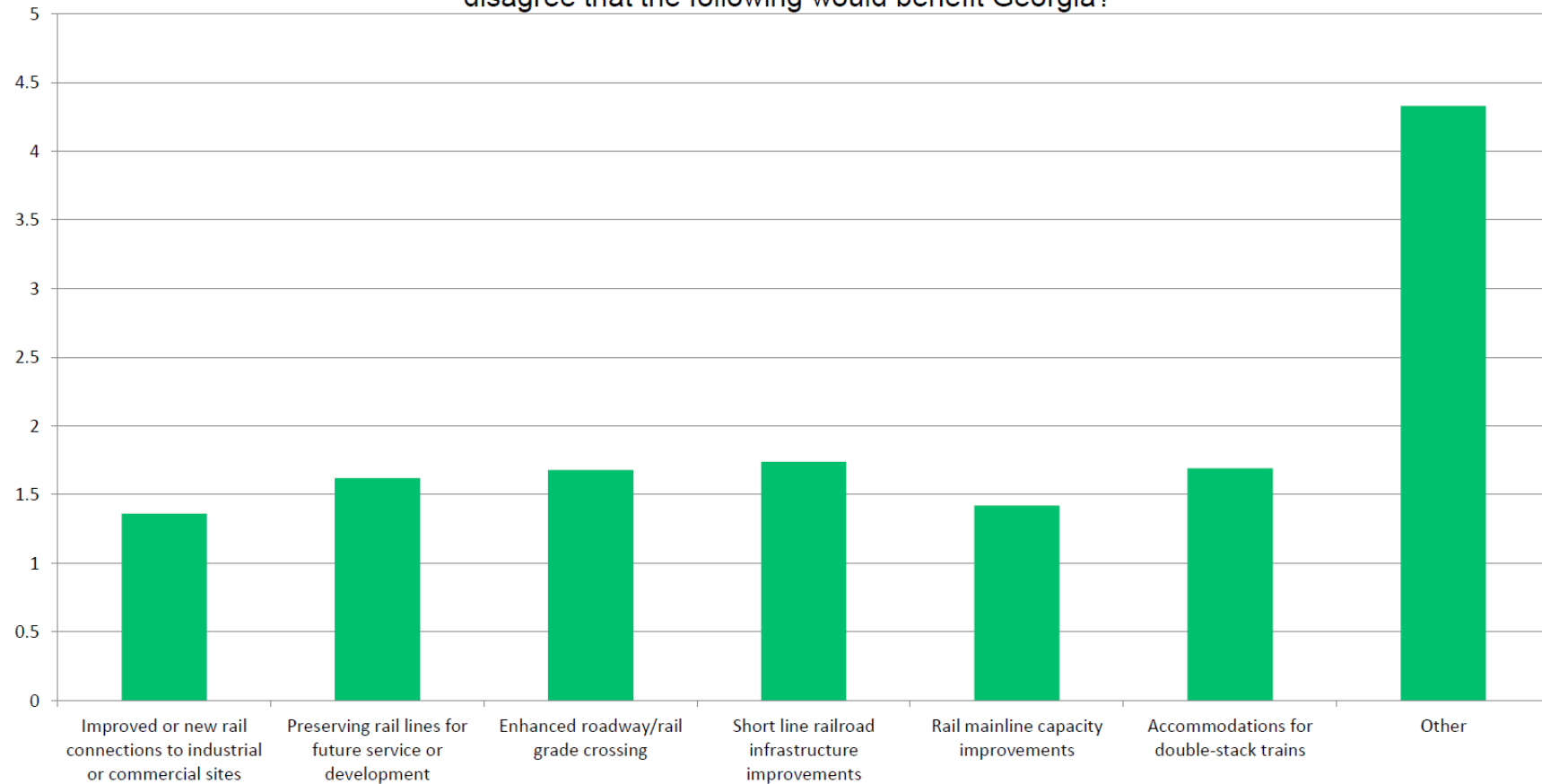


Please rank the following in terms of benefit to Georgia with "1" being most important and "3" being least important.



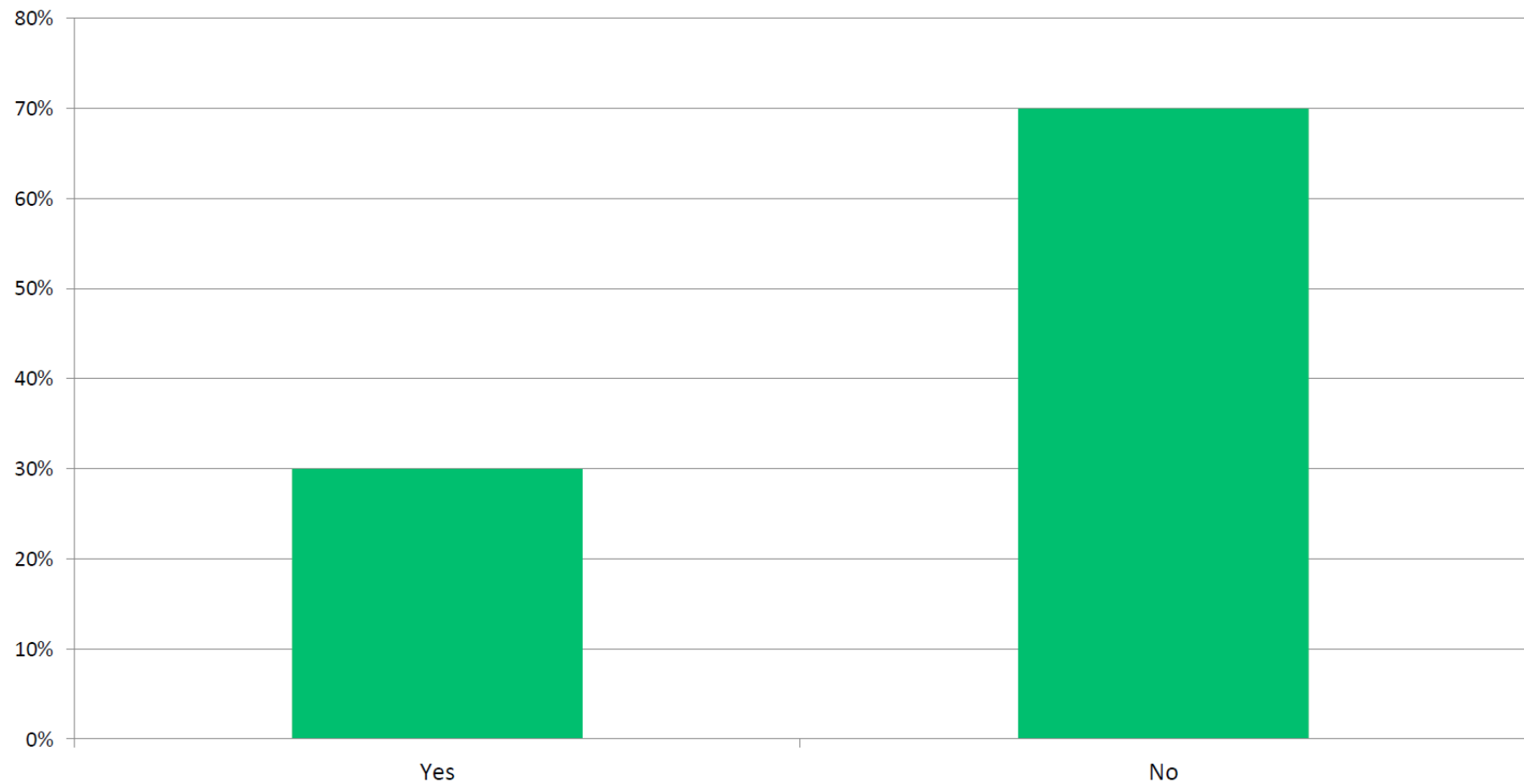


With 1 being “strongly agree” and 5 being “strongly disagree”, how strongly do you agree or disagree that the following would benefit Georgia?



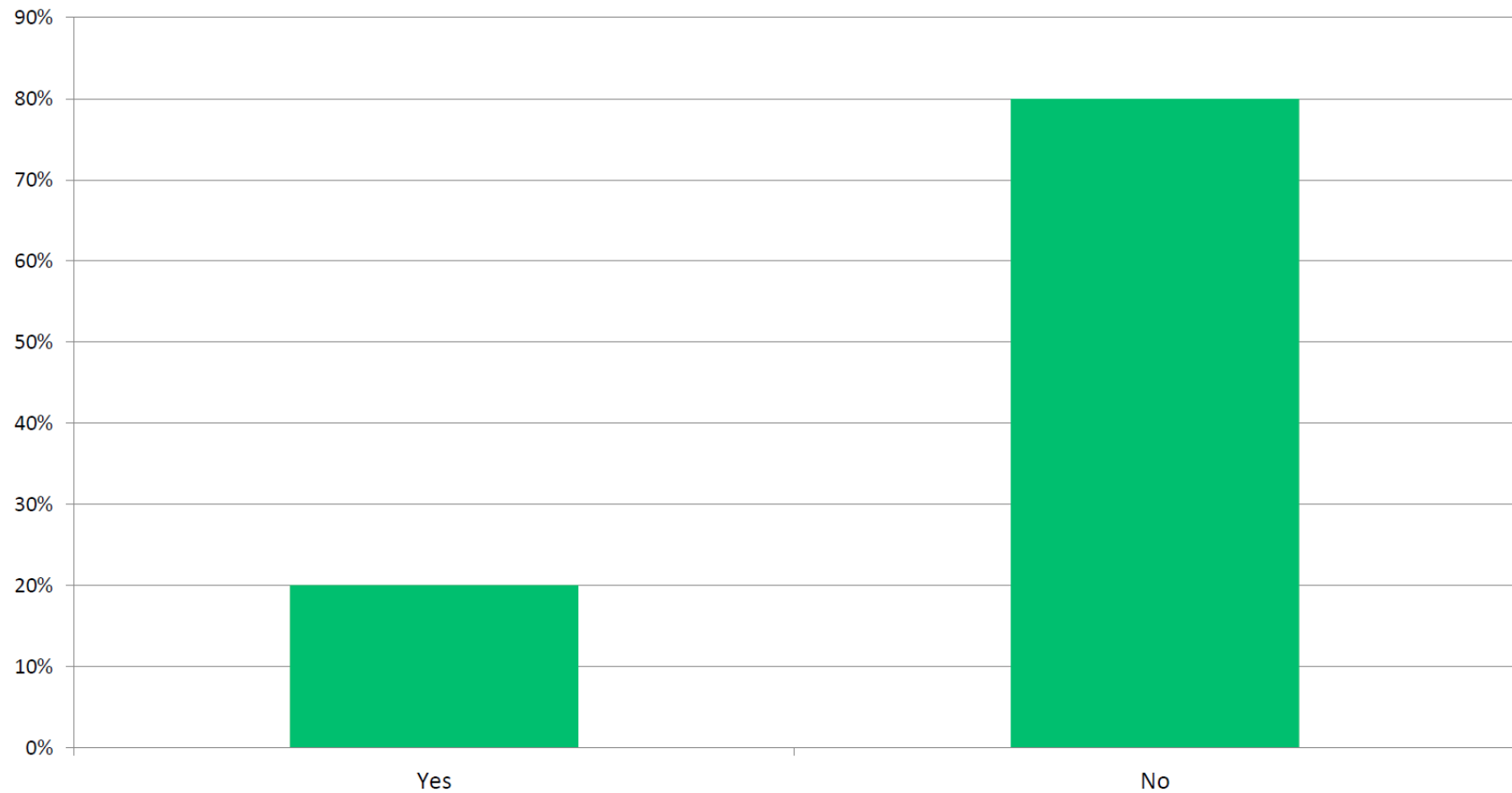


Do you currently use rail for inbound shipping?



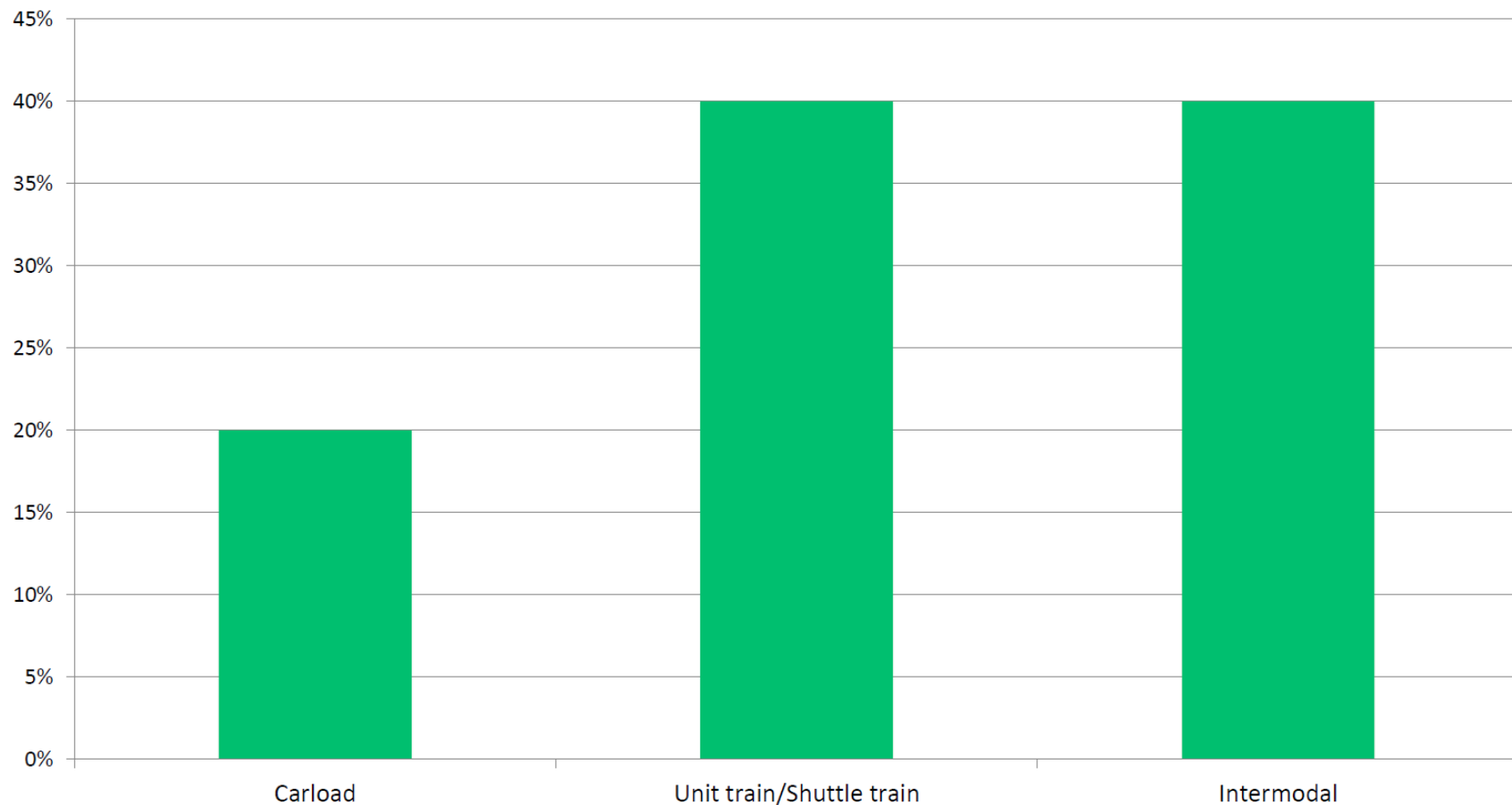


Do you currently use rail for outbound shipping?



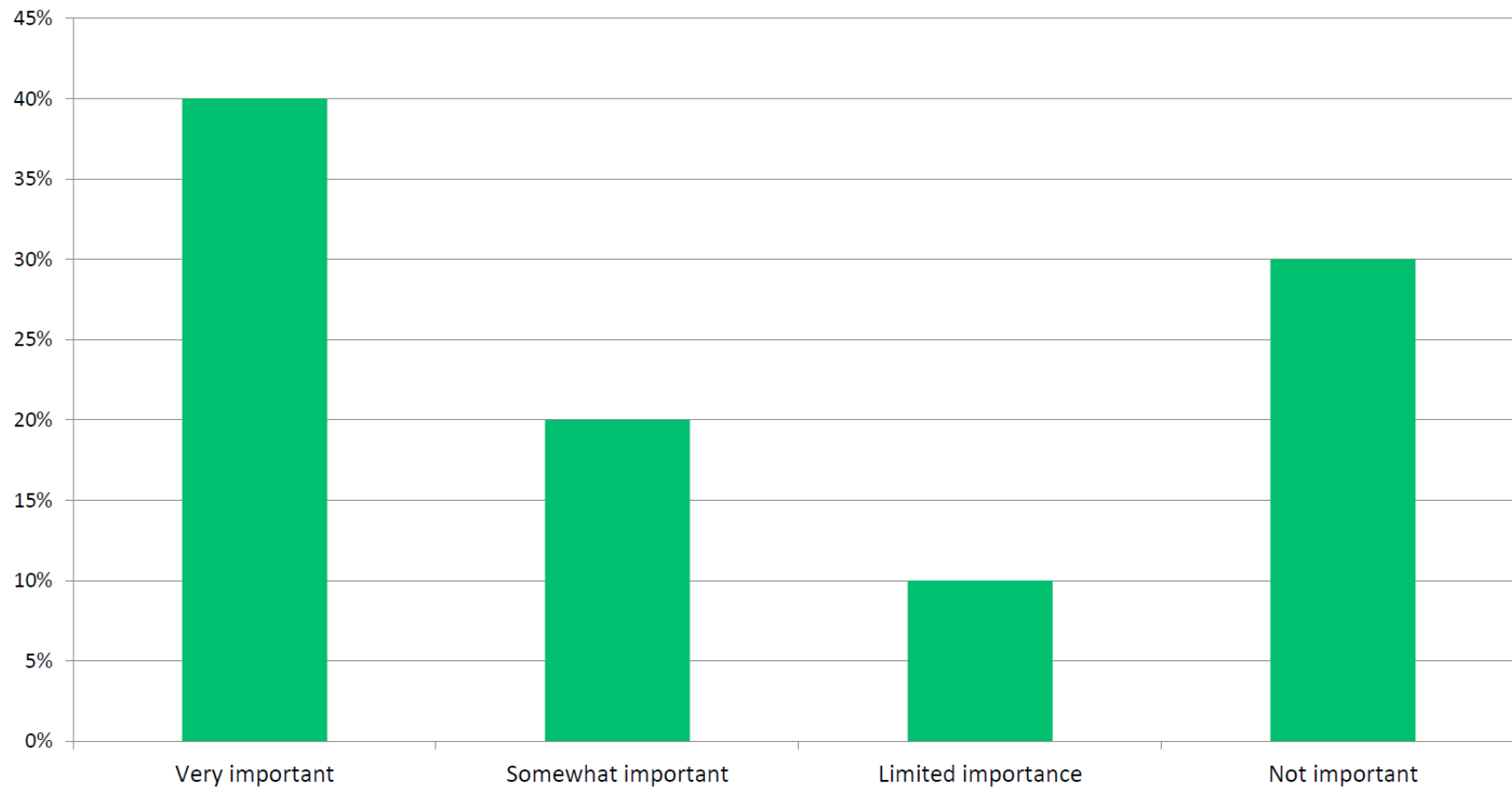


What type rail service do you currently use? (Please check all that apply).



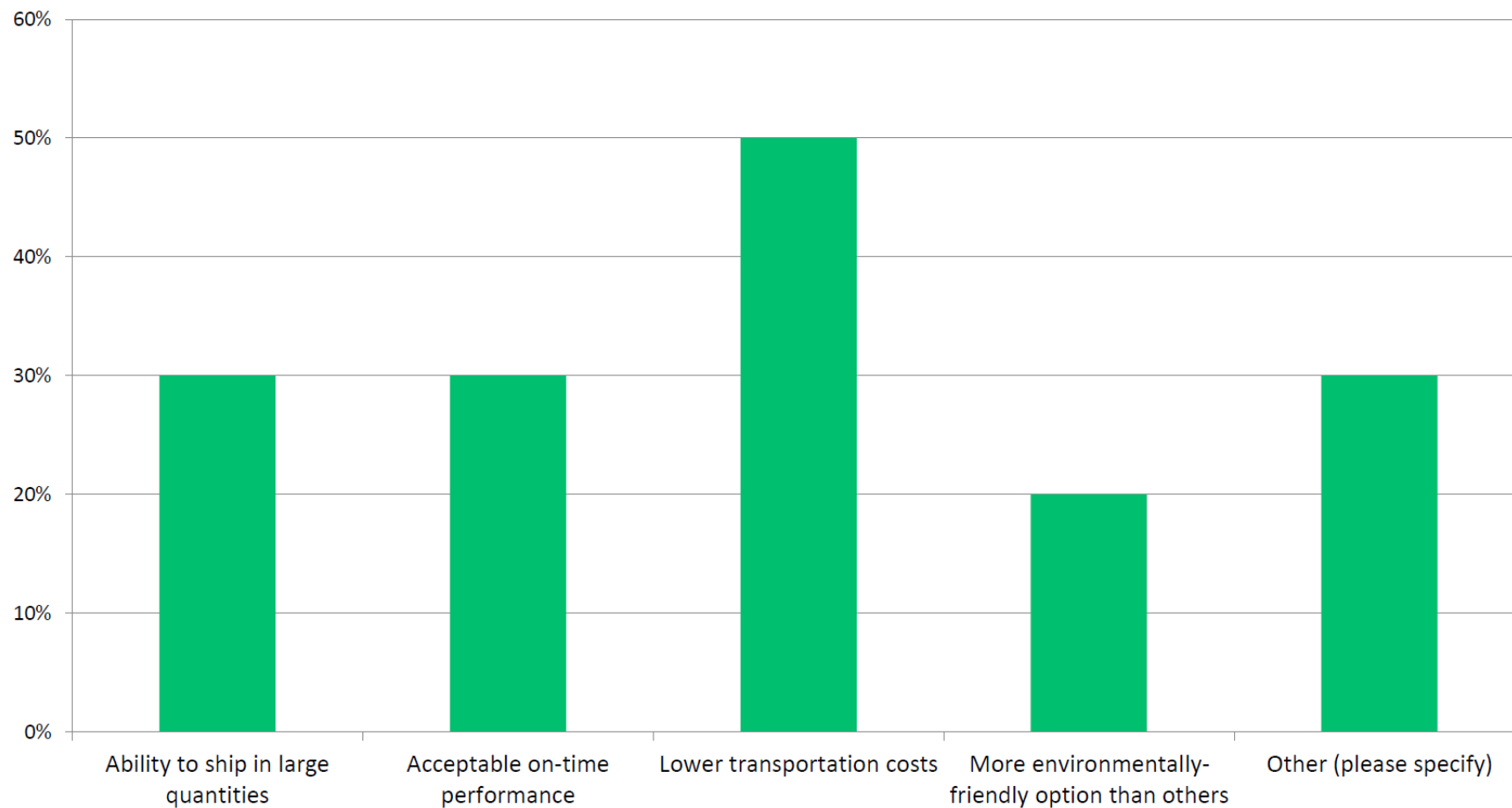


How important is rail in transporting goods you ship or receive?



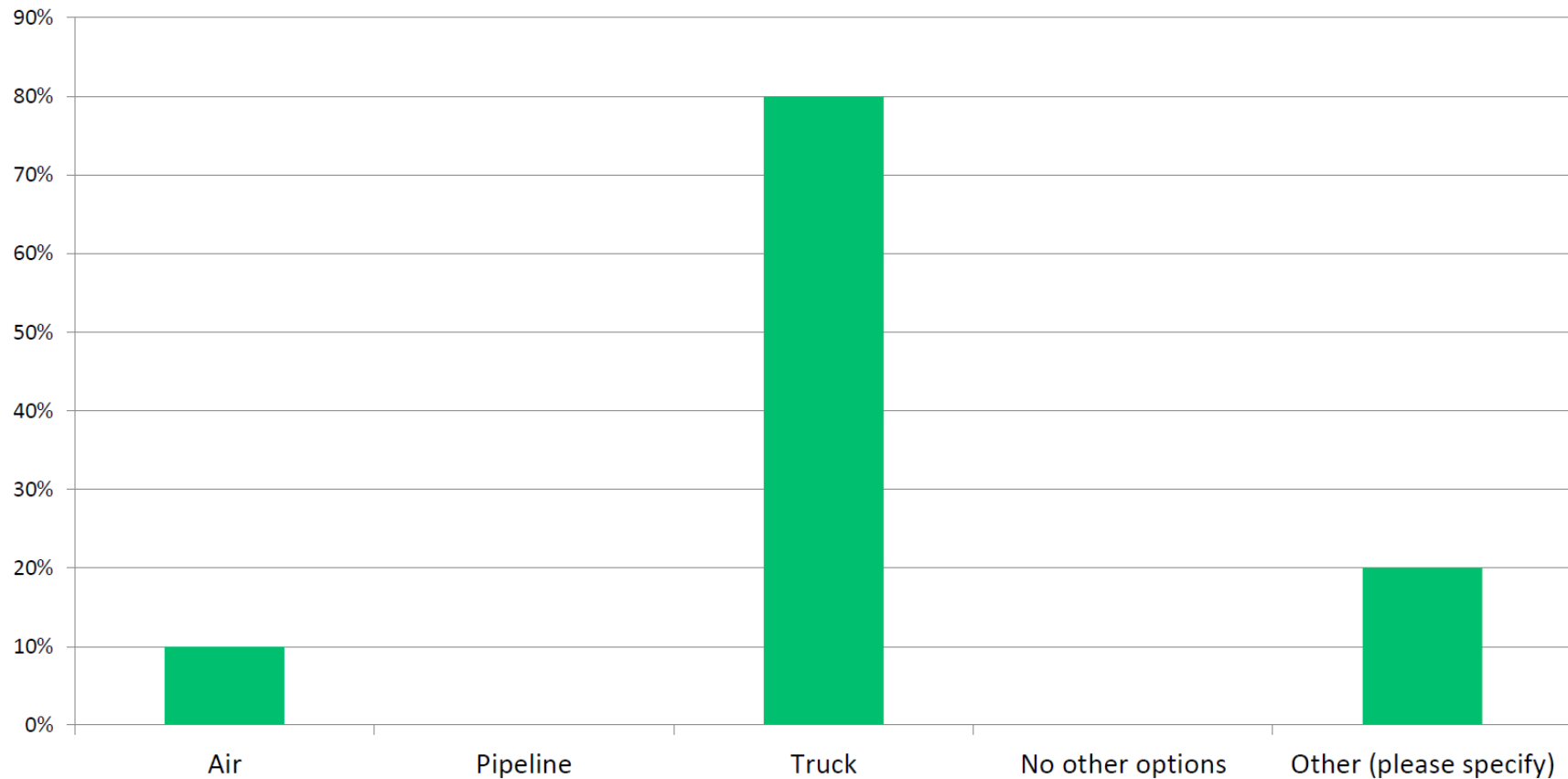


Which of the following are important in the decision to use rail? (Please check all that apply).



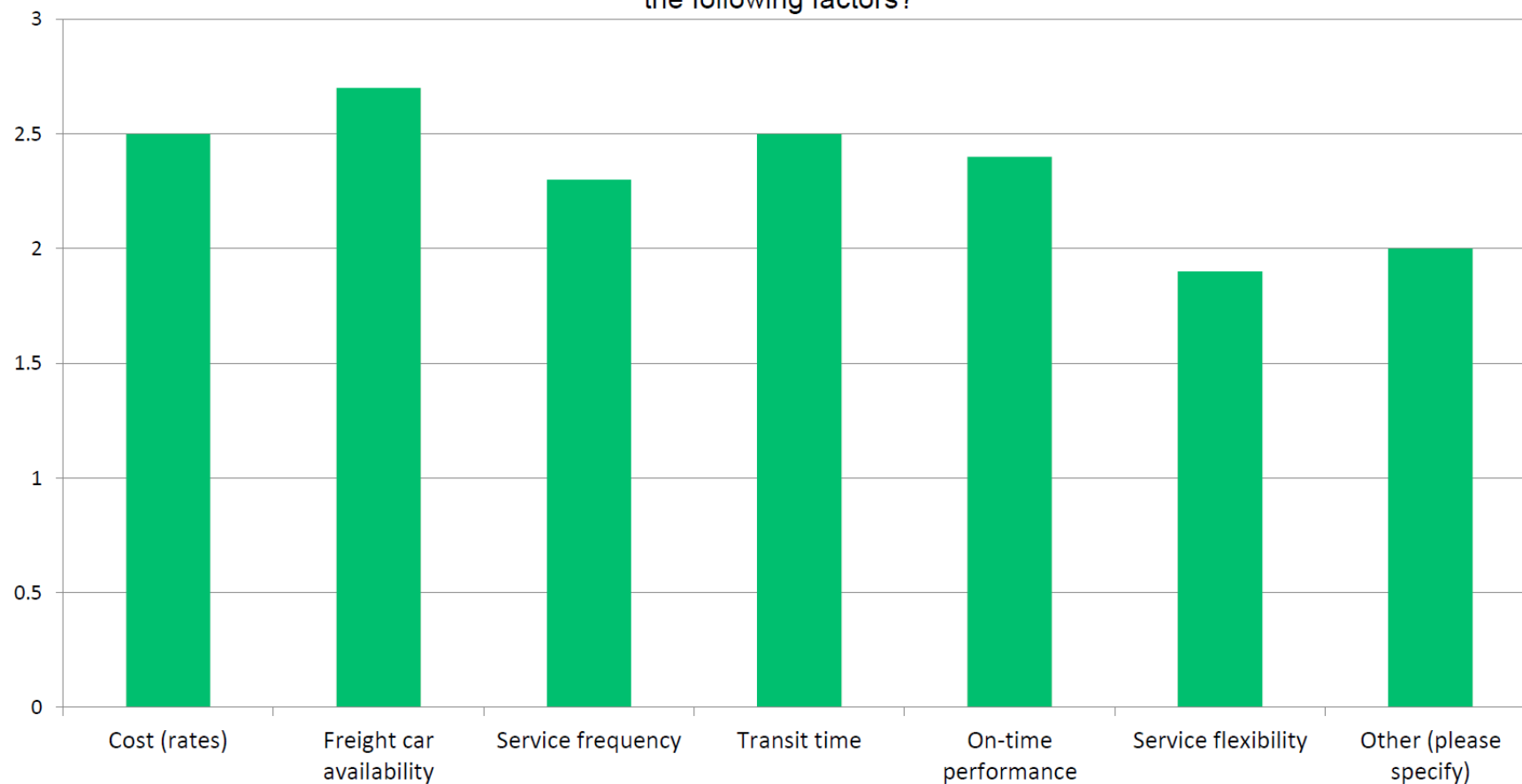


If rail transportation was not available, how would your business ship or receive goods? (Please check all that apply).



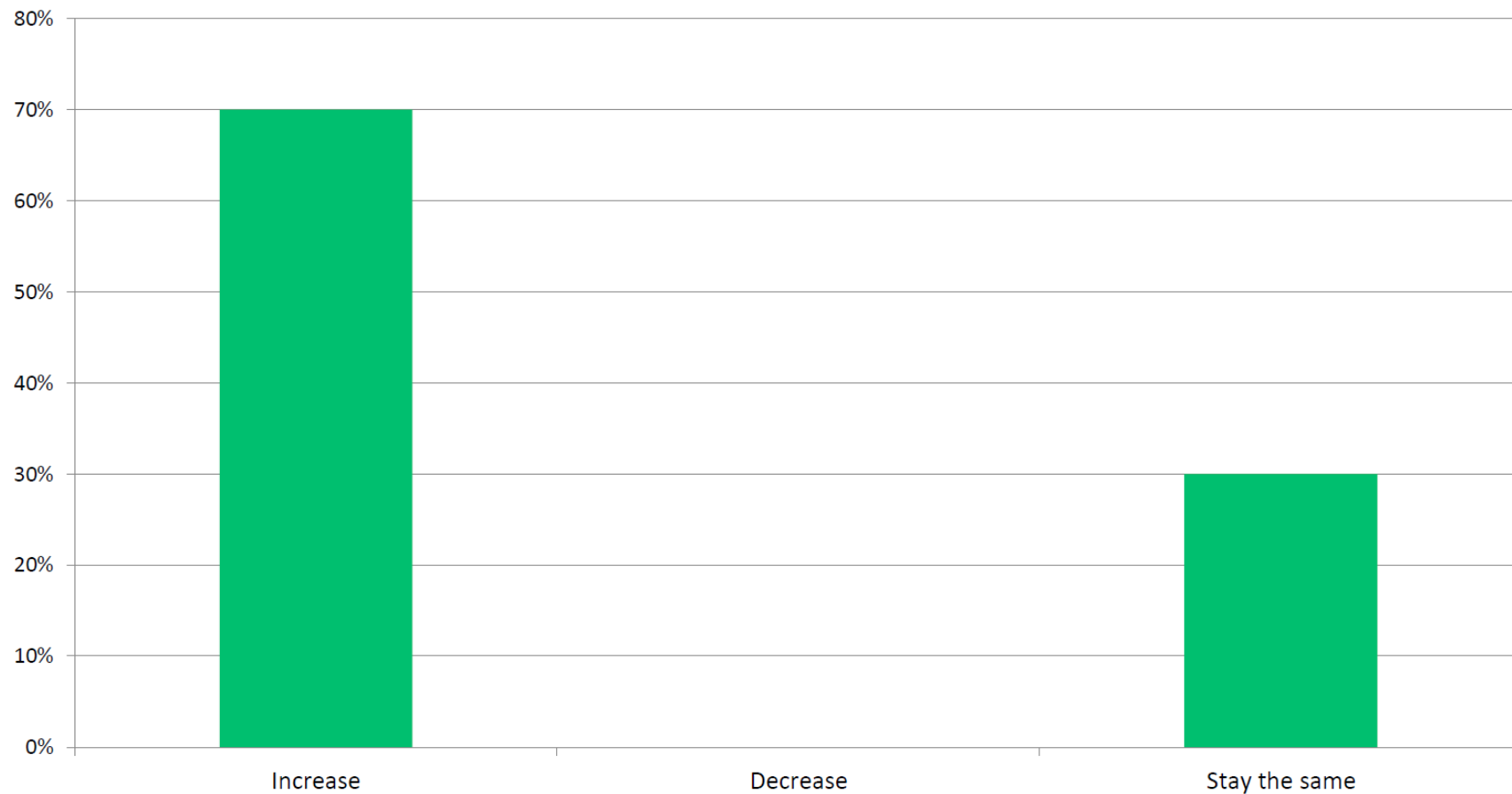


With 1 being “poor” and 4 being “excellent”, how would you rate the rail service you receive on the following factors?



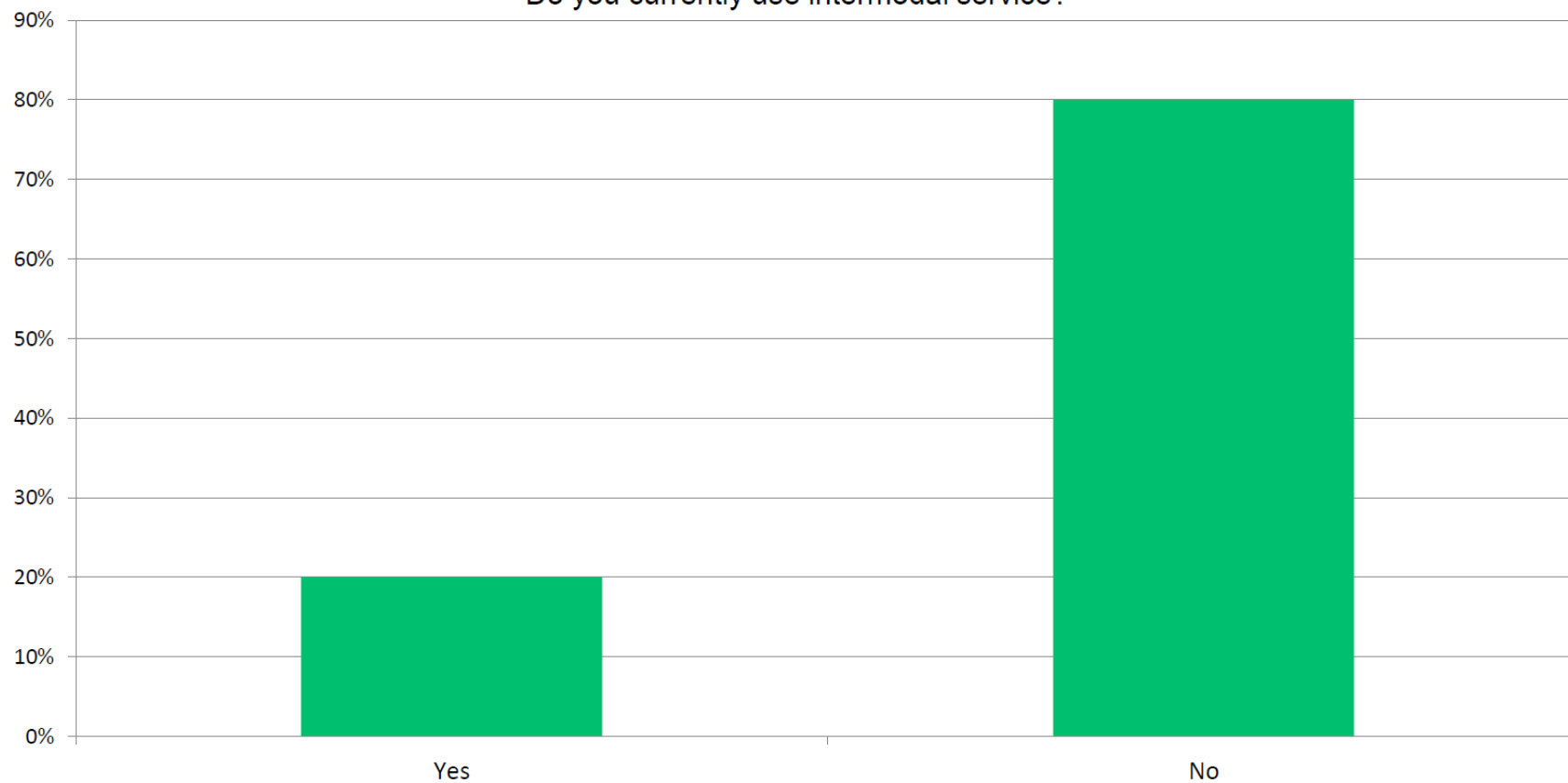


In the future, you expect your use of rail to:



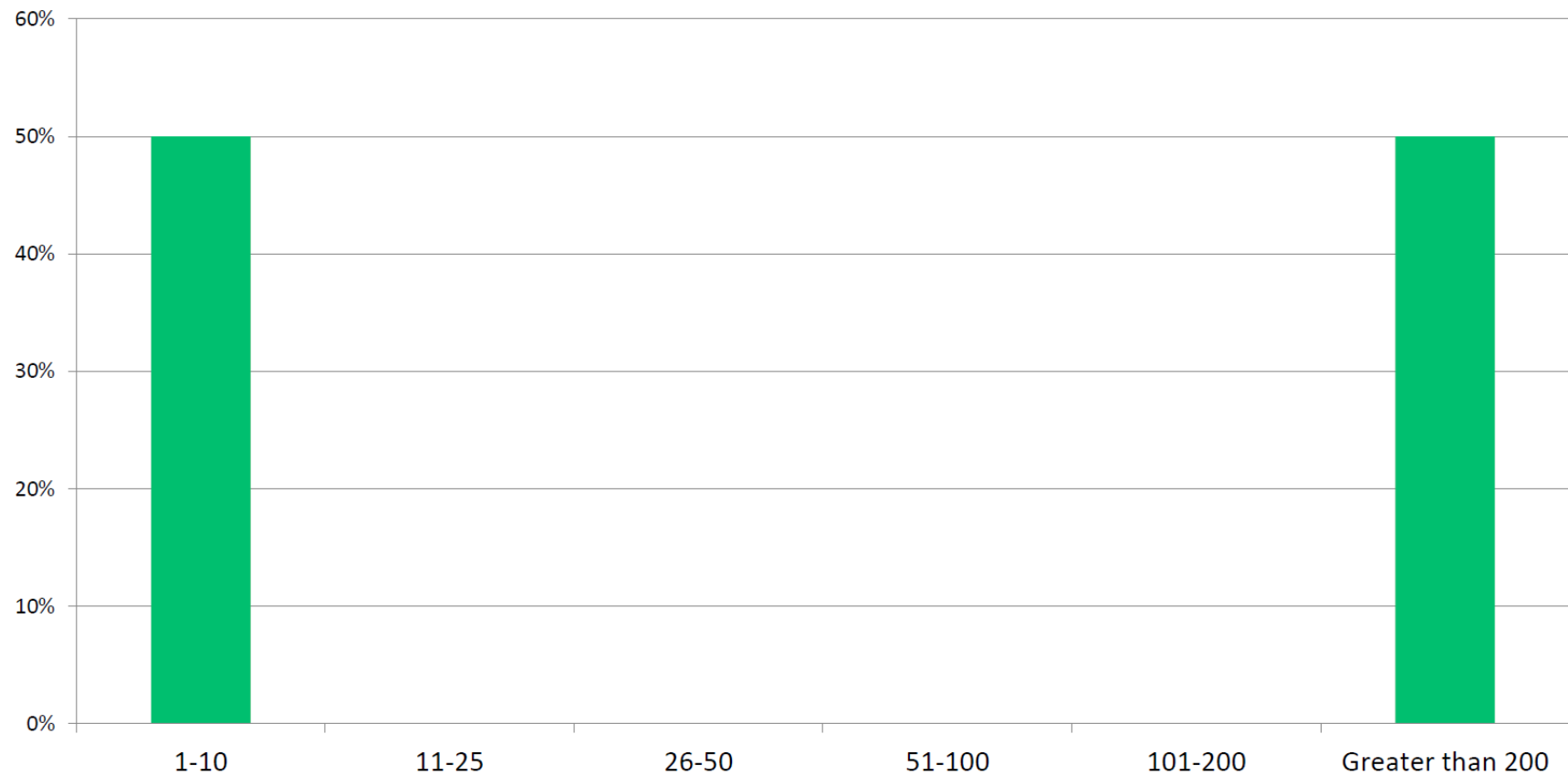


Do you currently use intermodal service?



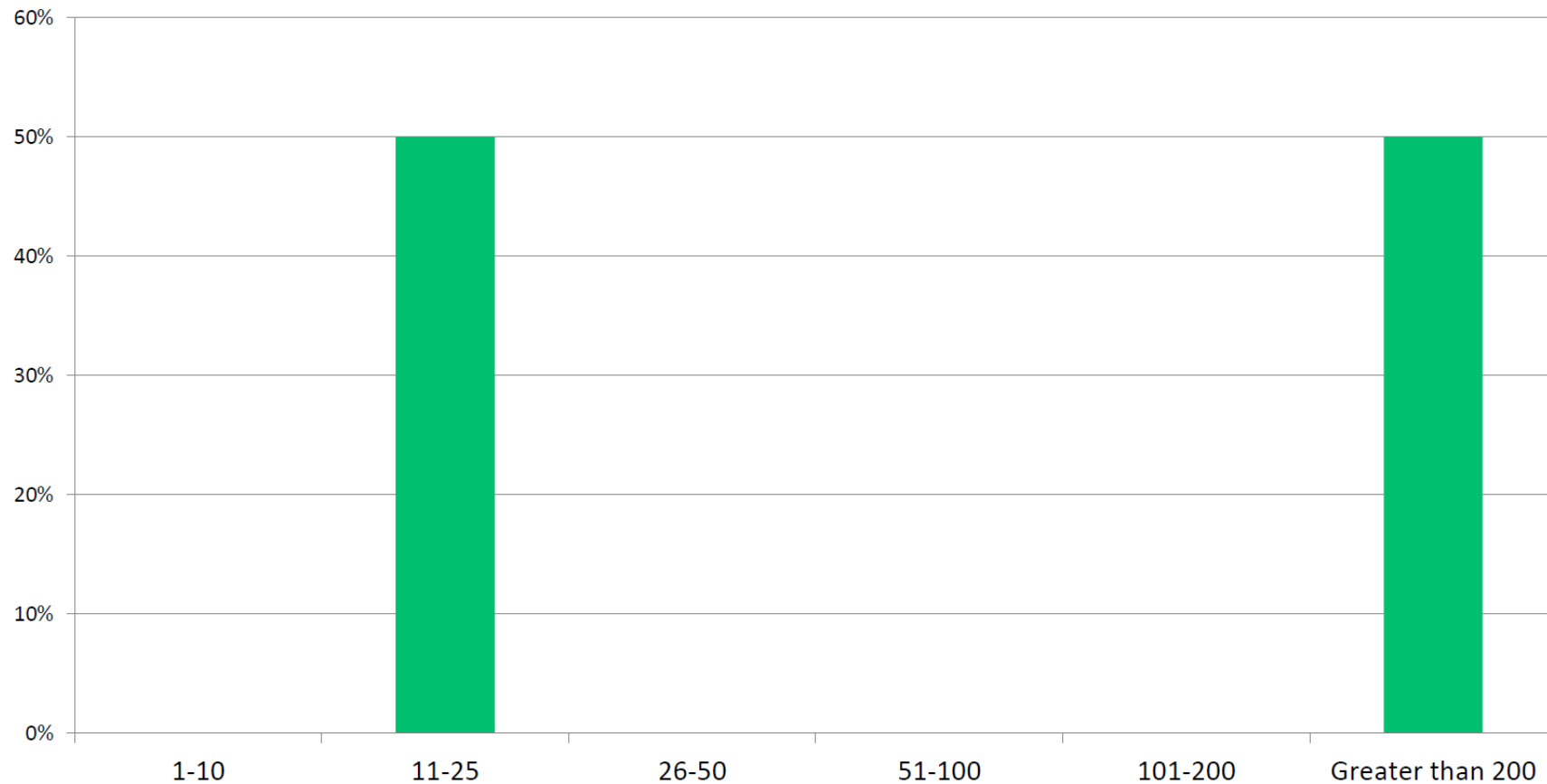


How many containers do you ship each month?



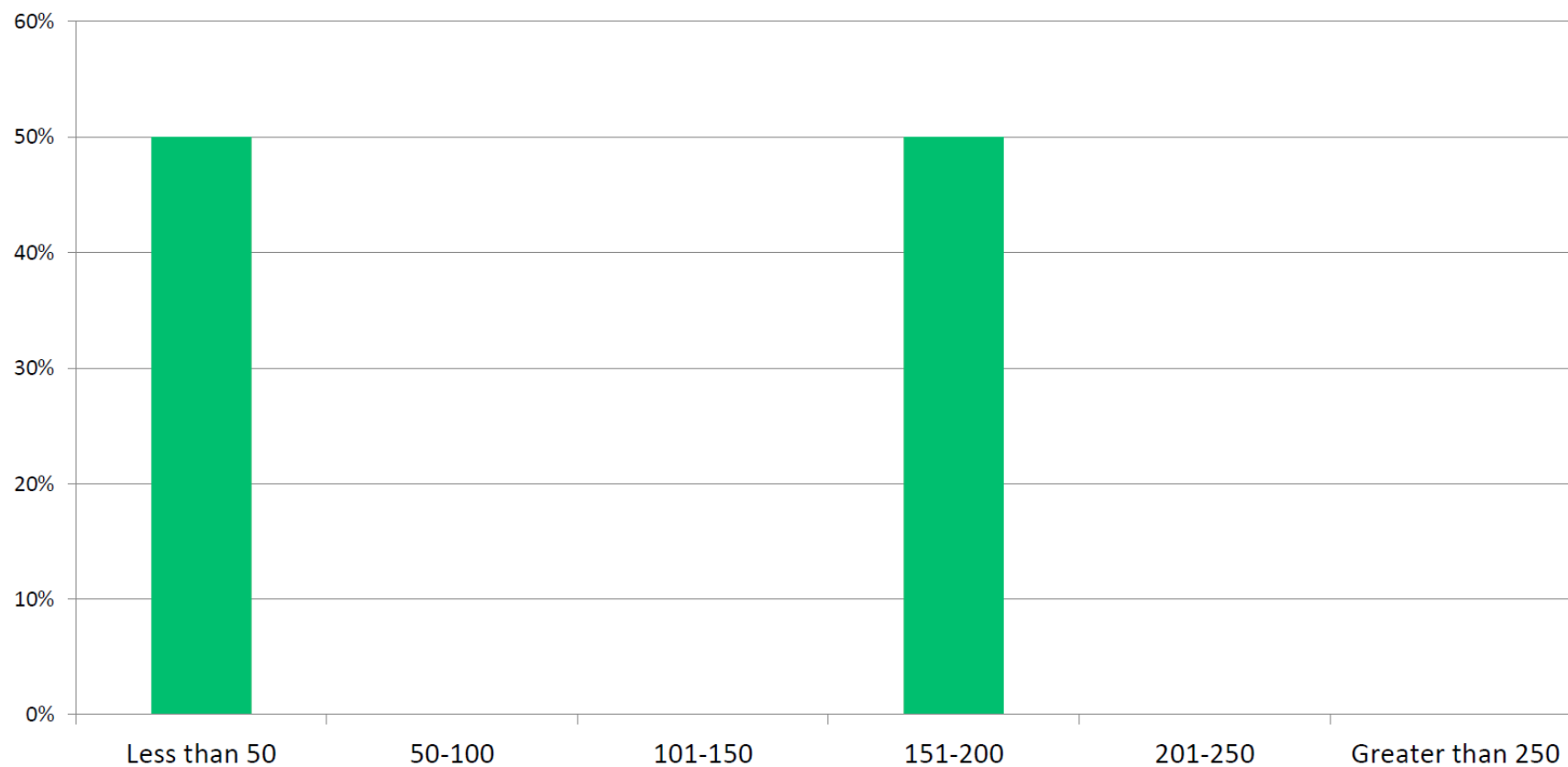


How many containers do you receive each month?



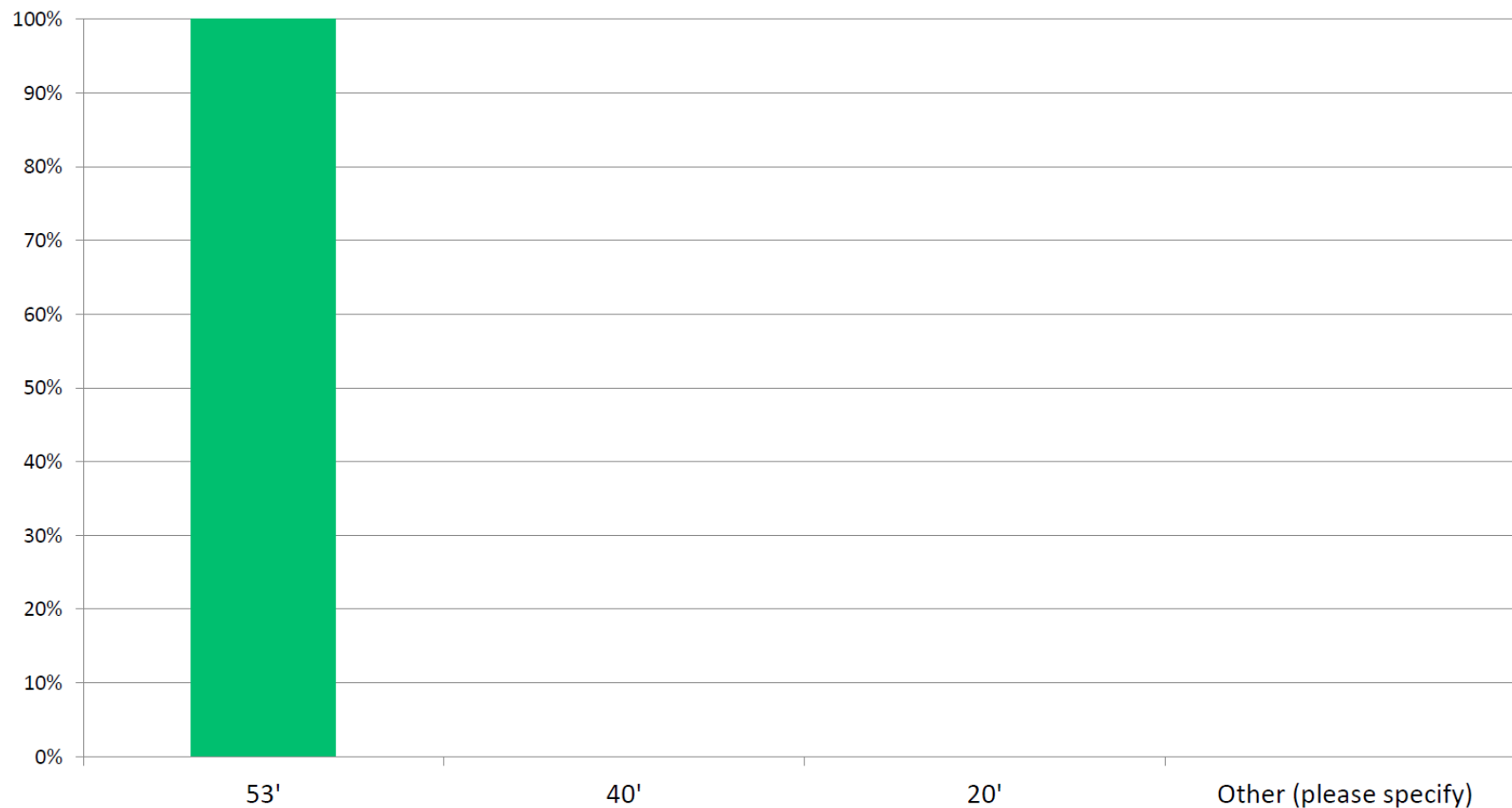


What is the maximum number of miles that you truck your containers to an intermodal container terminal?



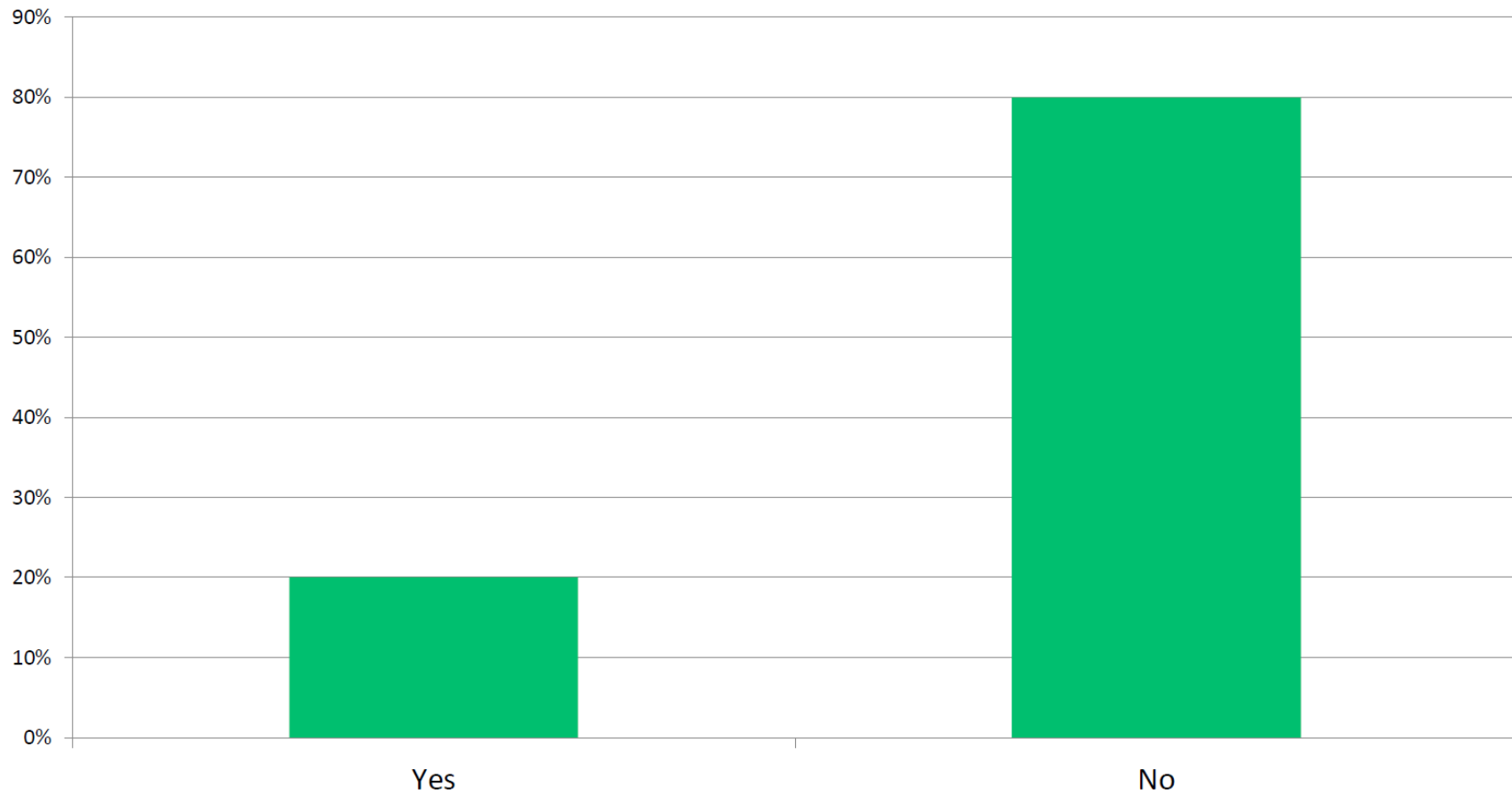


What is your preferred container size? Please select all that apply.



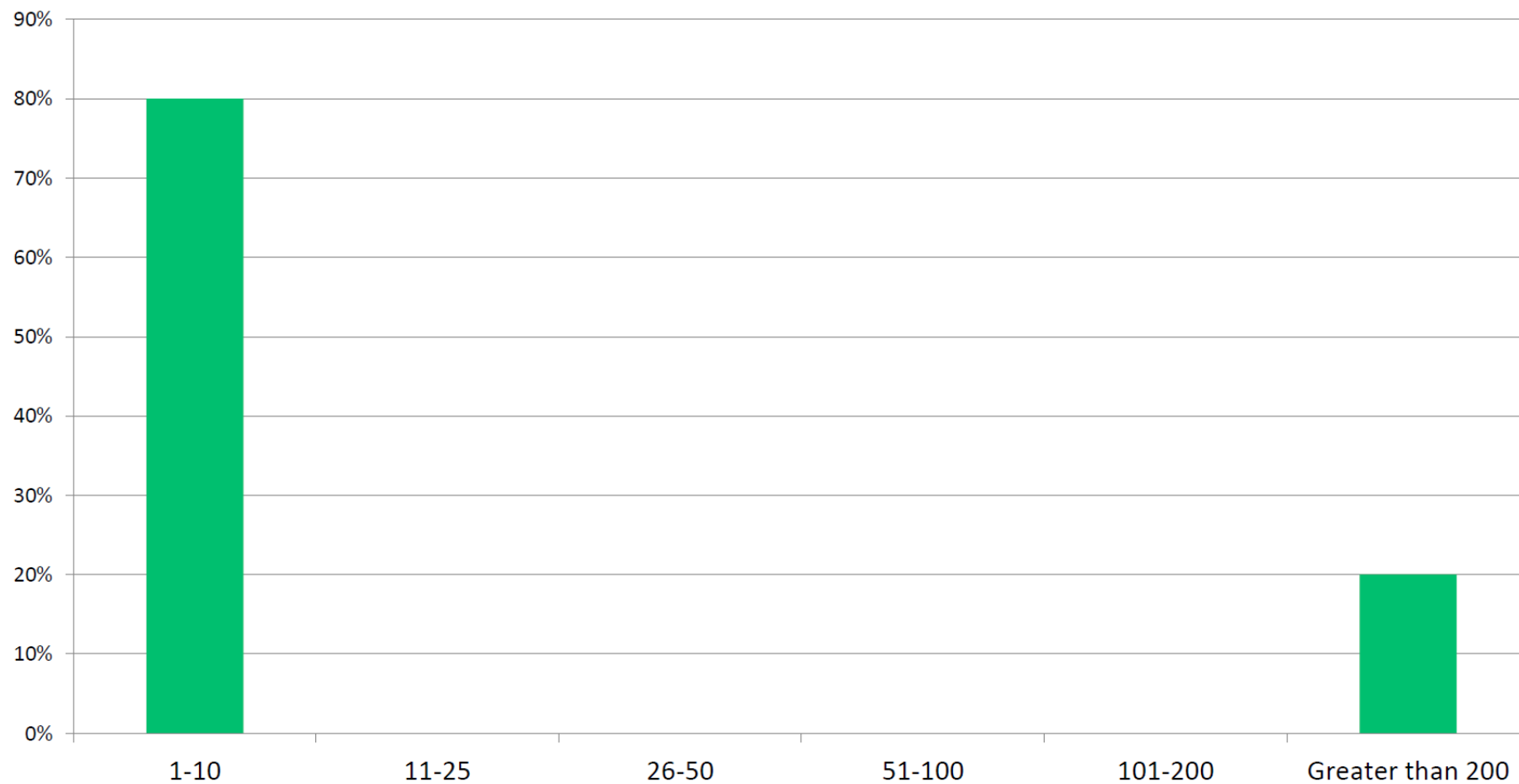


Do you have an interest in using intermodal service?



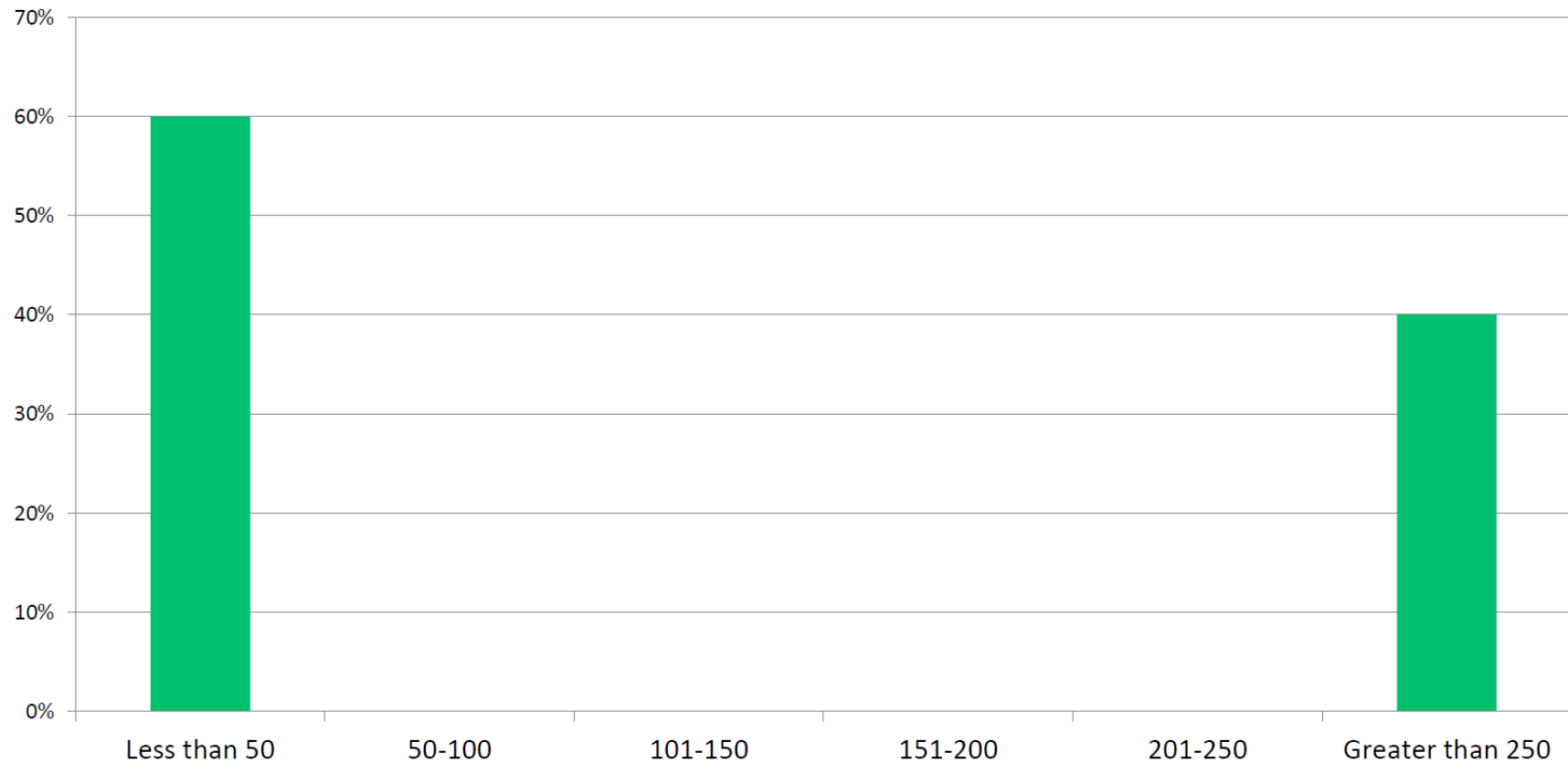


How many containers would you expect to ship each month?



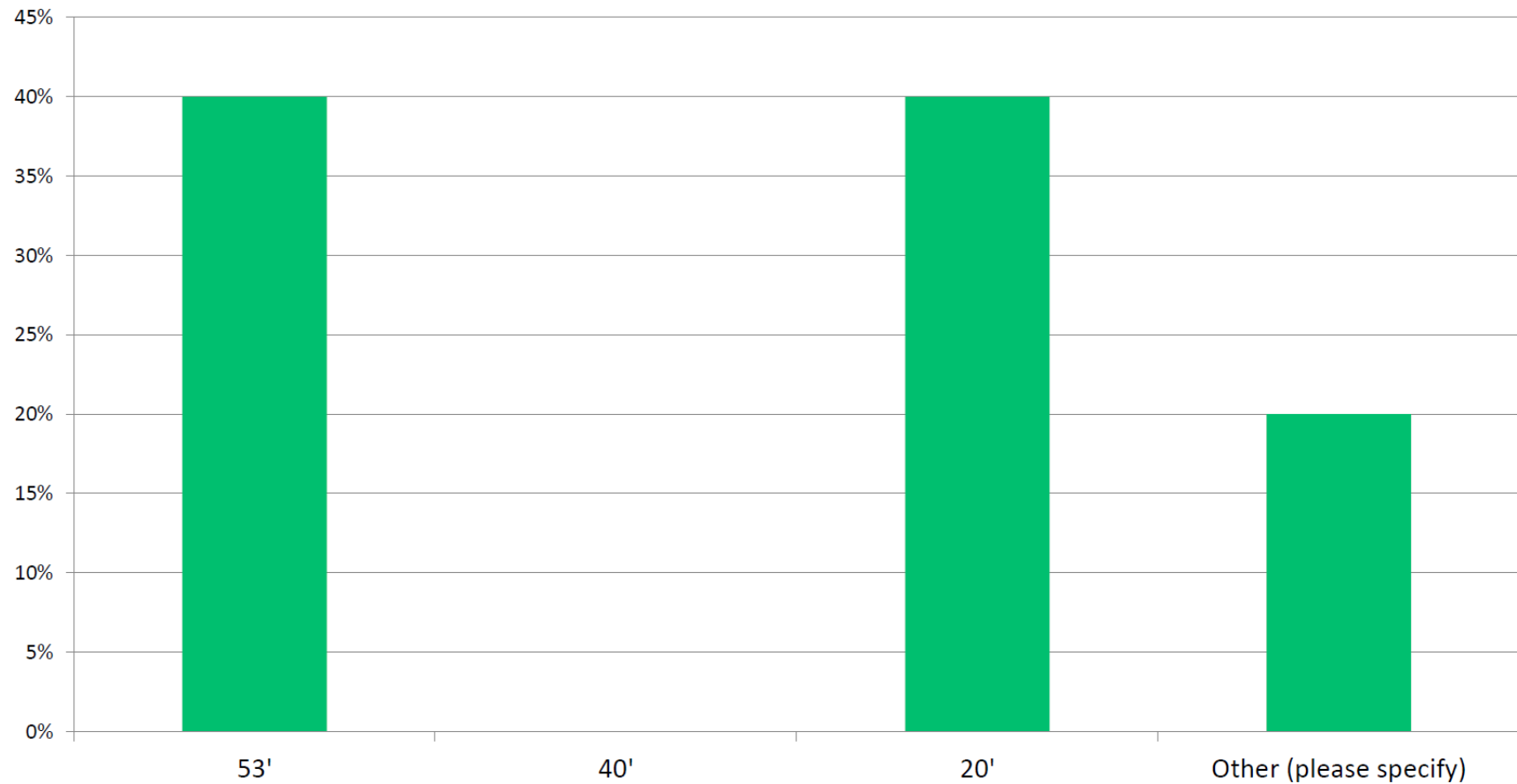


What is the maximum number of miles that you would truck your containers to an intermodal container terminal?



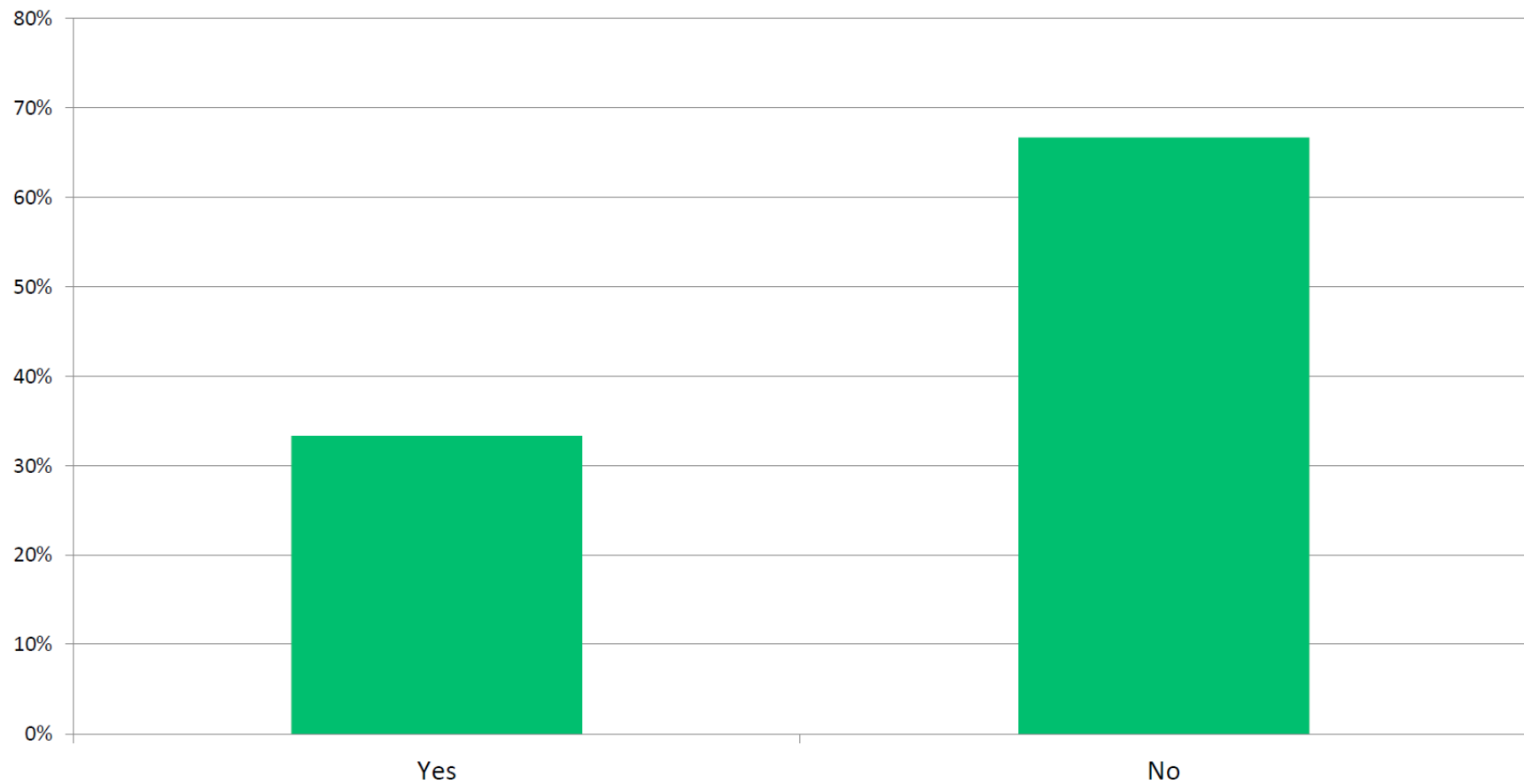


What is your preferred container size? Please select all that apply.



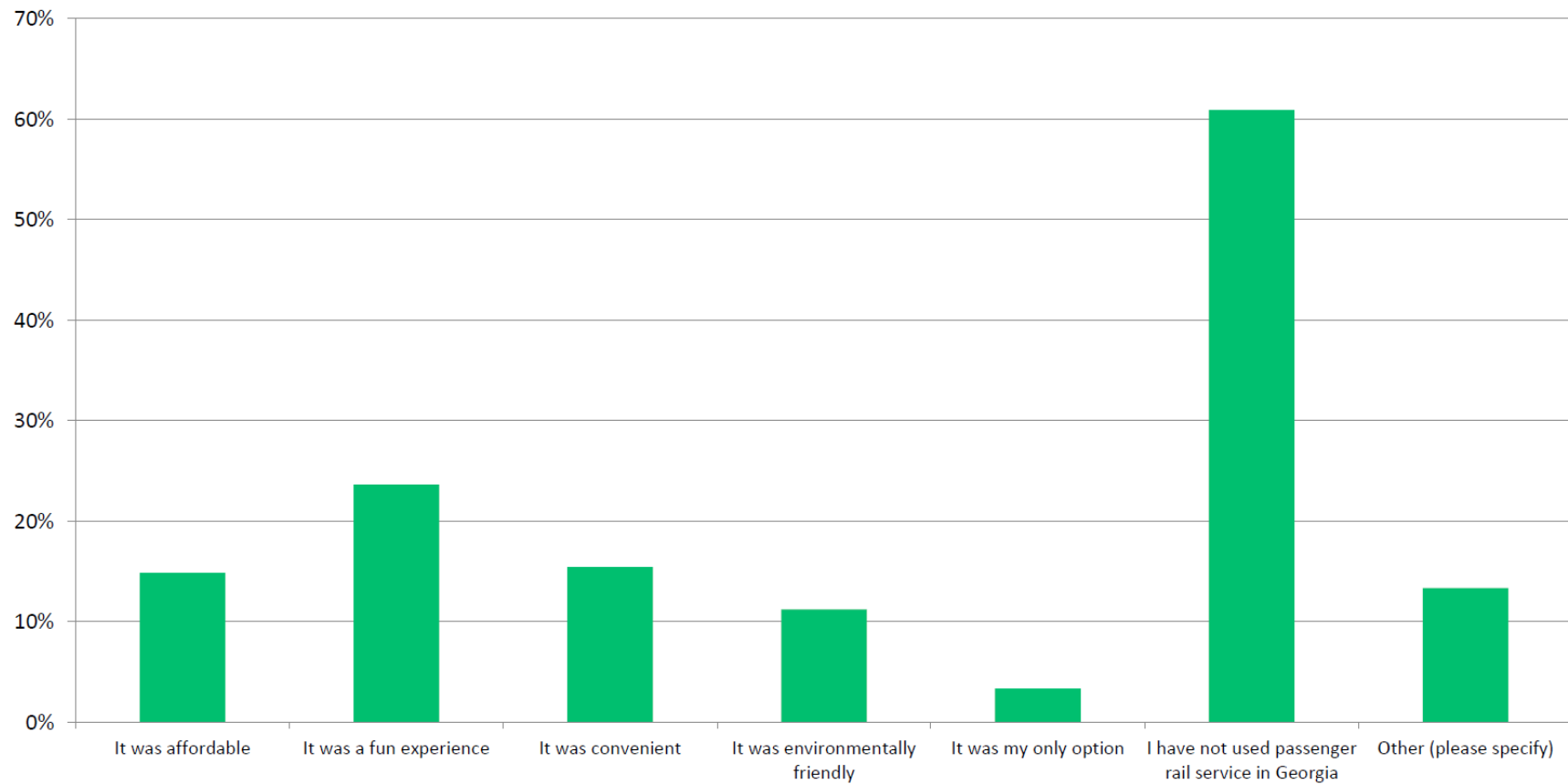


Have you ever used Amtrak service in Georgia?



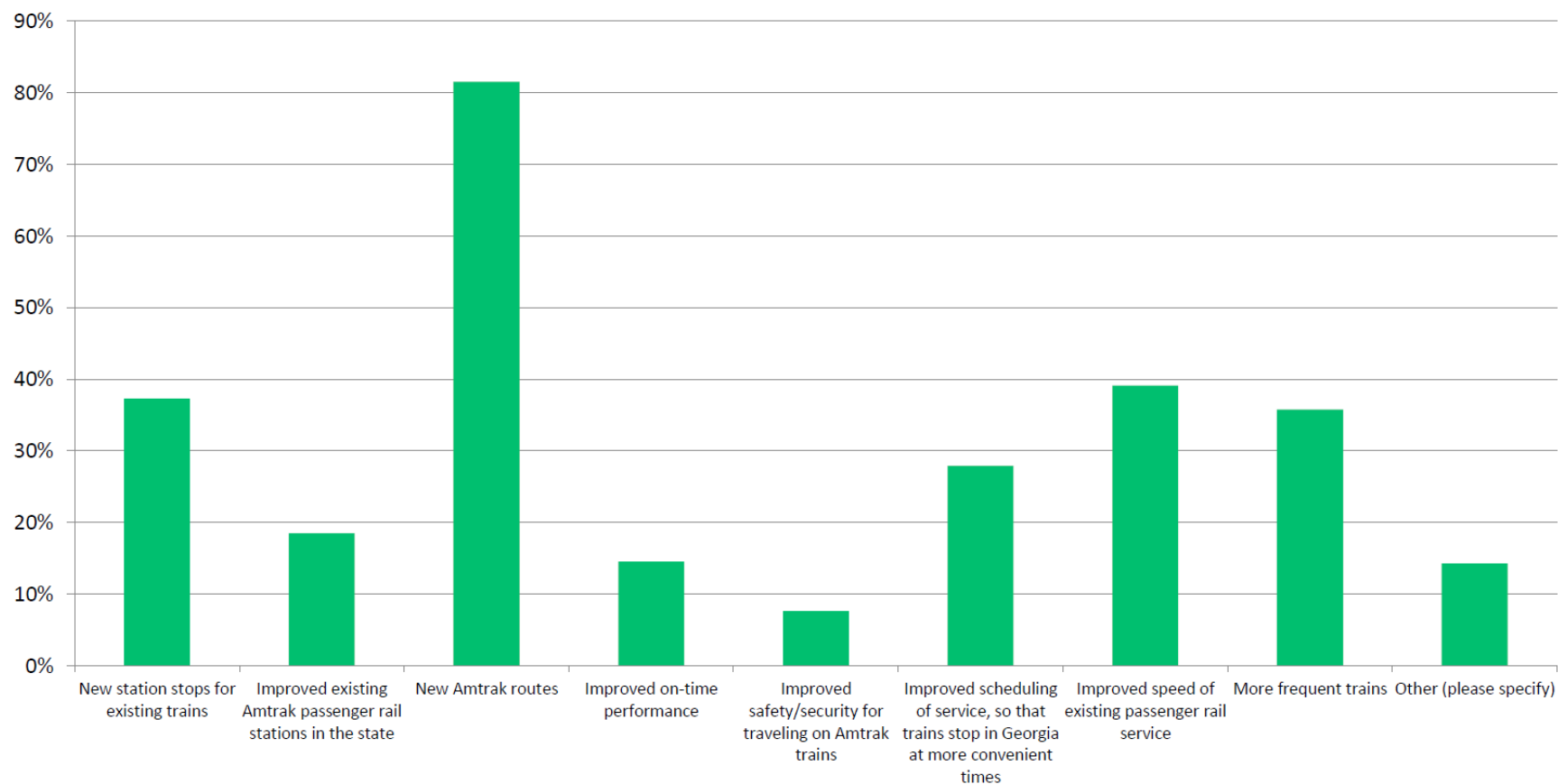


Which of the following reasons describes why you have used Amtrak in Georgia? (Please select all that apply.)





Please select the top three factors that would encourage you to use or increase your use of Amtrak.





Commuter rail service refers to passenger trains operating between employment centers and outlying areas. Commuter rail lines typically serve daily riders traveling distances between 10 to 50 miles. How important do you believe commuter rail service would be in Georgia?

